94-AFC-1

FEB U 8 1996

# REVISED PRESIDING MEMBER'S PROPOSED DECISION

Application for Certification for the

# SAN FRANCISCO ENERGY COMPANY'S COGENERATION PROJECT

City and County of San Francisco, California

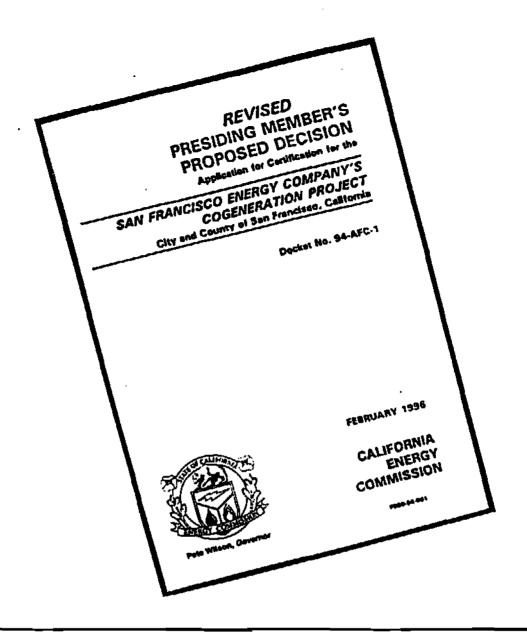
Docket No. 94-AFC-1



### CALIFORNIA ENERGY COMMISSION

Pete Wilson, Governor

P800-96-001



#### CALIFORNIA ENERGY COMMISSION

SALLY RAKOW, Vice Chair and Presiding Committee Member Eric Wong and Gary Heath, Advisors

CHARLES R. IMBRECHT, Chairman and Second Committee Member John Wilson, Advisor

The Hearing Office

		to.	

#### CALIFORNIA ENERGY COMMISSION

1316 NINTH STREET
ACRAMENTO, CA 95814-5512



The Committee hereby submits its Revised Presiding Member's Proposed Decision pursuant to Title 20, California Code of Regulations section 1753.

The Committee recommends that the full Commission approve the San Francisco Energy Company's Cogeneration Project (SFEC). Its reasons for this recommendation are set forth in the following document.

The full Commission will decide whether to adopt, reject, or modify the Revised Presiding Member's Proposed Decision as follows:

MONDAY, March 4, 1996

beginning at 10:00 a.m.
California Energy Commission
1516 Ninth Street
Hearing Room A
Sacramento, California

Written comments on the Revised Presiding Member's Proposed Decision shall be filed and served on or before February 27, 1996. Parties and interested persons may address the full Commission concerning this matter at the business meeting scheduled above. For further information on how to participate, please contact Ed Heidig, Public Advisor, at (916) 654-4489, or toll free, (800) 822-6228. Shawn Pittard, Regulatory Project Manager, can answer technical questions concerning the proposed project at (916) 654-5139. Address any legal or procedural inquiries to Garret Shean, Hearing Officer, at (916) 654-3893.

Dated: February 8, 1996

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

SALLY RAKOW, Vice Chair and Presiding Committee Member

CHARLES R. IMBRECHT, Chairman and Committee Member

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#### CALIFORNIA ENERGY COMMISSION

-1516 NINTH STREET ACRAMENTO, CA 95814-5512



February 8, 1996

The Committee has prepared this Revised Presiding Member's Proposed Decision after careful consideration of all oral and written comments received upon the October 1995 version.

While the ultimate recommendation (i.e. to approve the proposed project) has not changed, we have made substantial revisions and reorganizations both to clarify our reasoning and to respond to salient points raised by the parties.

Except for minor stylistic and typographical corrections, additions are reflected by redline (redline) and deletions by strikeouts (strikeouts). Several chapters have been extensively revised from the original including particularly, Environmental Justice and Public Health. In one case, Air Quality, the revisions were so great that redline and strikeout is impractical. Therefore, a new chapter has been inserted in place of the old one. This Revised Presiding Member's Proposed Decision also includes a new appendix -- APPENDIX: RESPONSES TO COMMENTS/MOTIONS -- which addresses the general comments submitted by the parties as well as the outstanding motions.

#### STATE OF CALIFORNIA

## State Energy Resources Conservation and Development Commission

In the Matter of:	)	Docket No. 94-AFC-1
	)	
Application for Certification	)	
for the SAN FRANCISCO ENERGY	)	COMMISSION DECISION
COMPANY'S COGENERATION Project	)	
•	)	

The Commission Decision in the above-captioned matter is based upon the evidentiary record of these proceedings. The following text contains a summary of the proceeding, the evidence presented, and the rationale for the findings reached and conditions imposed. The Decision includes this narrative text, conditions, compliance verifications and appendices.

#### **FINDINGS**

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

- 1. As The project is the result of the California Public Utilities Commission's Final Standard Offer No. 4 auction, on the Request for Bids issued in August 1993. Pursuant to Public Resources Code section 25523.5(a), the proposed facility is in conformity with the 12-year forecast of statewide and service area electrical power demands and the integrated assessment of need adopted by the Commission in the 1992 Electricity Report, pursuant to Public Resources Code sections 25305(e), 25309(b), 25523.5, and 25524 integrated assessment need for new resource additions determined pursuant to section 25305 and adopted pursuant to section 25308.
- 2. The Conditions of Certification contained in the accompanying text, if implemented by the Applicant, ensure that the project will be designed, sited, and operated in conformity with applicable local, regional, state and federal laws, ordinances, regulations and standards, including applicable public health and safety standards, and air and water quality standards.
- 3. Implementation of the Conditions of Certification contained in the accompanying text will ensure protection of environmental quality and assure reasonably safe and reliable operation of the facility. The Conditions of Certification also assure that the project will not result in any significant adverse environmental impacts.

- 4. Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.
- 5. There is a reliability based physical need for the proposed project to be operational prior to Hunters Point Units 2 and 3 being placed in long-term reserve as of December 31, 2000.
- 6. Prior to January 1, 2001, there is an economic need for the proposed facility.
- 7. There is no compelling public need for the proposed project to be on-line by June 1997 as required by Pacific Gas & Electric Company's bid specifications reflected in the 1993 Hiermial Resource Plan Update auction.
- 8. The evidence of record does not persuasively establish the existence of feasible alternatives to the project as the project was described during these proceedings.
- The evidence of the record does not demonstrate that any of the alternative sites were, on balance, environmentally superior to the proposed Port Site.
- 10. The proceedings leading to this Decision have been conducted in conformity with the applicable provisions of Commission regulations governing the consideration of an Application for Certification and thereby meet the requirements of Public Resources Code sections 21000 et seq. and 25500 et seq.

#### ORDER

Good cause appearing therefor, the Commission ORDERS as follows:

- 1. The Application for Certification for the San Francisco Energy Project as described in this Decision, under the terms of the and assuming approval by the California Public Utilities Commission of a power purchase agreement with Pacific Gas and & Electric Company arising from the 1993 Biennial Resource Plan Update auction, is hereby approved.
- 2. The approval of the Application for Certification is subject to the timely performance of the Conditions of Certification enumerated in the accompanying text and appendices, including operation within the statutory definition of "cogeneration" set forth in Public Resources Code section 25134. The Conditions of Certification and Compliance Verifications are integrated with this Decision and not severable therefrom. While Applicant may delegate the performance of a Condition of Certification or Compliance Verification, the duty to ensure adequate performance of such may not be delegated.

- 3. The Applicant shall serve upon all parties, and docket with the Commission, a complete copy of the document memorializing the formal action taken by the San Francisco Port Commission granting the site lease for the proposed project.
- 4. The Applicant shall serve upon all parties, and docket with the Commission, a complete copy of the document memorializing the formal action taken by the San Francisco Hoard of Supervisors approving the site lease for the proposed project.
- 35. For purposes of administrative reconsideration pursuant to Public Resources Code section 25530, this Decision is deemed final and adopted when filed with the Commission's Docket Unit. This Decision shall not be filed with the Commission's Docket Unit until the Applicant submits the documents specified in paragraphs 3 and 4, above:
- 46. For purposes of judicial review pursuant to Public Resources Code section 25531, the Decision is final (30) days after its filing in the absence of the filing of a petition for reconsideration, or if a petition for reconsideration is filed within thirty (30) days, upon the adoption and filing of an Order upon reconsideration with the Commission's Docket Unit.
- 57. The Commission hereby adopts the Conditions of Certification, Compliance Verifications, and associated dispute resolution procedures as part of the Decision in order to implement the compliance program required by Public Resources Code section 25532.
- 68. The Executive Director of the Commission shall transmit a copy of this Decision and appropriate accompanying documents as provided by Public Resources Code section 25537 and the California Code of Regulations, title 20, section 1768.

Dated \_\_\_\_\_\_\_ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

CHARLES R. IMBRECHT, Chairman and Committee Member

SALLY RAKOW. Vice Chair and Presiding Committee Member

JANANNE SHARPLESS, Commissioner

DAVID A. ROHY, Ph.D., Commissioner

MICHAL C. MOGRE, Commissioner

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#### INTRODUCTION AND SUMMARY

This Decision sets forth the analysis and proposed findings of the Commission regarding the Application for Certification (AFC) of the San Francisco Energy Company (SFEC) for a 240 megawatt (MW) natural gas-fired combined cycle cogeneration powerplant (project). The Commission has determined that the project complies with approximately 186 different federal, state, regional and local laws, ordinances, regulations, and standards. The project is needed under indisputably the result of the Public Utilities Commission's 1993 Final Standard Offer No. 4 auction as specified in Public Resources Code section 25523.5 and thus is entitled to an affirmative finding of conformance with the integrated assessment of need under section 25523(f). As such it also conforms with the criteria set forth in the 1992 Electricity Report. Under the direction of the California Environmental Quality Act (CEQA) and based on the evidence in the record, the Commission has determined that with the implementation of the Conditions of Certification no impact will rise above insignificance. Thus, under the law, the project is entitled to certification.

The proposed project will be located in the Bayview Hunters Point area of San Francisco, California on property owned and controlled by the Port of San Francisco. Electricity from the project will be sold to the Pacific Gas & Electric Company (PG&E) and the steam from the project will be sold to San Francisco Thermal for district heating and cooling, or to the San Francisco Southeast Water Pollution Control Plant.

Under the Warren-Alquist Act, the Commission has jurisdiction over the siting of powerplants that generate 50 MW or more in the State of California. (Pub. Resources Code, § 25000 et seq.) The Commission provides one-stop licensing to powerplant project proponents in order to streamline the process of reviewing the engineering and environmental aspects of a proposed powerplant project. (Pub. Resources Code, § 25000 et seq.)

There is an economic need for the project in 1997 and a physical need for the project after 2000. There is no compelling, physical need for the project to be operational by June 1997 in accordance with the bid specifications of the competitive auction.

This document objectively evaluates the San Francisco Energy Company's (SFEC's or Applicant) project and is based on the evidentiary record compiled through public hearings. As such, it reflects evidence submitted not only by SFECthe Applicant and the Commission staff (Staff), but also that submitted by numerous other governmental agencies, neighborhood groups and private citizens as well. The Decision staff sets forth the analysis and findings of the Commission regarding SFEC's AFC licensing application.

The Commission has closely reviewed the extensive evidentiary record of the proceeding as well as the testimony filed by various Intervenors and including all closing briefs and comments submitted on the *Presiding Member's Proposed Decision*. The Commission reviewed the SFEC project in 23 separate substantive topics ranging from need, community impacts, environmental impacts, public health and safety, alternatives, and engineering. Each technical section of the document: 1) summarizes the issues and/or setting: 2) summarizes the positions of the various parties; 3) summarizes the Commission's position; and 4) contains a set of Findings and Conclusions and, if appropriate, a set of Conditions of Certification.

The Commission's "open planning" siting process has ensured that local residents of the Bayview Hunters Point community arewere not only able to comment on SFEC's proposal, but also are able to extensively participate in the evaluation of that proposal the project. In addition, all of the meetings, workshops, and hearings at which information on the project is exchanged have been open to the public. This proceeding has included 4±2 public meetings or hearings, of which 356 have been in San Francisco, many in the neighborhood during the evening. These events have been open to the public and conducted after extensive direct-mail and published notice. Members of the public were present at every workshop where Staff's technical experts reviewed each aspect of the proposal in detail. All documents reviewed by the Staff were also made available to interested members of the public. In addition, there were numerous collateral meetings with citizen groups and local government officials to discuss various aspects of the case. Of the 4±2 public hearings and workshops, the Commission Committee conducted 13 days of formal evidentiary hearings.

The Commission's Public Adviser's Office undertook its own outreach program in the Bayview Hunters Point and Bernal Heights communities and gave substantial assistance to those parties and members of the public who requested it. In addition to the direct mail notices, notices of the meetings were published in the local newspapers including multi-language newspaper noticing. Several of the community organizations have been represented by attorneys and law students from Bay Area law school clinic programs. The Commission is unaware of any environmental review process which affords greater opportunity for public participation.<sup>2</sup>

The people of Bayview Hunters Point are very aware of their community's history. Since before World War II, Bayview Hunters Point has seen a shipyard, rendering plants, heavy and light industry, wrecking yards, and even neighborhood gas stations. The legacy is a host of sites with disposed war materiel, dump sites for lubricants, solvents, fuels,—and debris, and leaky underground storage tanks, and resulting in soil and groundwater contamination. Appropriately, the residents of Bayview Hunters Point—have as their "number one" concern the potential for public health impacts from the project. Even those members of the community who support the Port site insist that their support is conditioned on a regulatory finding that the plant is safe.

Many of the individuals participating in this proceeding were motivated to do so out of concerns that the proposed project would create significant environmental problems for their community. Some of these people expressed their concerns informally to SFEC even before the case was filed. In addition, Members of the public were present at every workshop where Staff's technical experts reviewed each aspect of the proposal in detail. All documents reviewed by the Staff were also made available to interested members of the public. Public interest and participation in the proceeding has influenced project changes involving plant location, toxic materials handling, noise reduction, visual impacts, traffic, and socioeconomics enhancements to name a few. In addition, many areas of inquiry by the Staff were suggested by concerned and knowledgeable public participants.

<sup>&</sup>lt;sup>2</sup> Note that <u>no public bearings</u> are required under the Environmental Impact Report process conducted pursuant to the California Environmental Quality Act. (Cal. Code Regs., tit. 14, §§ 15087(g), 15202.)

These citizens have an absolute right to ask their government to respond to their concerns, whether that government is the San Francisco Board of Supervisors or the Energy Commission. But the government has a duty to act in a deliberative way, to gather the best information available and rely on an informed judgment.

Concerned Citizens and community groups, participating in the review process as Intervenors, offered testimony at the evidentiary hearings just as did SFEC and the Staff. These occasions provided the opportunity for concerned citizens to factually establish the basis for their concerns. The Commission then evaluated this testimony along with that submitted by SFEC, the Staff, and other agencies. In addition, many Intervenors and members of the public voiced their concerns during public comment periods which followed the hearings on various subject areas. This document explains the Commission's reasoning in light of the facts brought out through the evidence of record as a whole.

The Commission recognizes the Intervenors' earnest concerns about the project and aspirations for their neighborhoods. The Commission believes that some of the public health fears and concerns expressed about this particular project during the hearings are not supported by the weight of evidence. For example, concerning air quality and public health, the analyses of SFEC, the Bay Area Air Quality Management District (BAAQMD or Air District), and Staff each show that the project complies with applicable state and federal air quality laws and will not cause any significant negative impacts either locally or in the Bay Area.

This powerplant is state-of-the-art when it comes to pollution control. There are no pathways to significant health impacts from this facility. In a society that consumes electricity, this it is the best a state of the art utility-scale combustion facility insofar as minimal emissions of pollutants. Widely accepted electricity industry computer models show that this project will displaces pollution from older PG&E powerplants in San Francisco, other parts of the Bay Area, and Northern California. While it is true that there will be increased emissions from the project compared to those displaced from San Francisco plants, project emissions will be below a level of significance, even when added to the ambient air. As a result of purchasing emission offsets

and displacing older more polluting PG&E powerplants, there will be a regional net air quality benefit. This in turn will reduce air-borne public health risks.

The Commission believes that its process has brought forth evidence which is the most up-to-date and reliable health information upon which to make its Decision. On the basis of that information, the Commission can say that the project will be built and operated as safely as is possible. For example, Im addition to reviewing criteria pollutants, the Air District, SFEC, and Staff independently conducted health risk assessments which confirm that there are no other emissions from the project which will cause a public health impact, including cancer. (FDOC, pp. 2, 11; FSA, Vol. I, p. 226.) There are no pathways to significant health impacts from this facility. Some residents fear toxic spills from the project. SFEC will also implement a state-of-the-art ammonia handling safety design and a thorough risk assessment to assure the project's safety, as well as to eliminate all credible concerns of risks to the public. In addition, with proper mitigation and construction practices, the project will not cause migration of contaminated the soil or pollute the groundwater beneath the site. If anything, the construction of the project on the Port site may remedy any existing site contamination. No facts were introduced to effectively challenge these conclusions.

The Commission believes that its process has brought forth evidence which is the most up-to-date and reliable health information upon which to make its Decision. On the basis of that information, the Commission can say that the project will be built and operated as safely as is technologically and humanly possible. Thus, we can conclude that the air quality and public health impacts will be insignificant.

<sup>&</sup>lt;sup>3</sup> The California Department of Toxic Substances Control (DTSC) is requiring SFEC to complete additional groundwater sampling at the Port site to determine whether an ecological risk assessment is necessary. The sampling and possible ecological risk assessment will determine the direction and timing of the actual remediation activity. (September 12, 1995 Reporter's Transcript at pp. 261-265.) DTSC's remediation plan will be available for public review by DTSC before the Commission renders its Decision on this project.

Others are concerned over the visual appearance of the project. While it will be part of the existing, industrially developed Port, all feasible measures will be taken to reduce the visual effects of the project.

Finally, the Commission cannot ignore the need to spur economic development in the "brownfields" of the urban core in environmentally acceptable ways. This project represents a \$186 million investment in the California economy. There are more tangible benefits to the San Francisco and Bayview Hunters Point area, in particular. SFEC has committed in a Memorandum of Understanding (MOU) with a community-based organization to use its" best efforts" to employ half of its construction workforce from the local community. Virtually all of the local construction unions have signed an agreement to implement SFEC's pledge. Skeptics of this pledge argue that it is not ironclad and calls only for "best efforts". The Commission believes that "best efforts" needs to be viewed in the context of what is gained rather than what is missing. SFEC's pledge is meaningful is meaningful in that it represents a positive opportunity for members of the community. Along with the community, the Commission will be monitoring SFEC's success in meeting its pledge.

On the financial front, the SFEC project will pay possessory taxes, in lieu of property taxes, of approximately \$2 million per year. Approximately half of this will go to the City's General Fund, with the remainder going to different funds. Since the project is located on Port property, SFEC will make lease payments to the Port. The lease is for 30 years at a total of \$100 million. The lease includes an escalator clause, so the annual average lease payment is approximately \$3 million.

In addition to taxes and leases, SFEC, in accordance with section 37 of the Draft Port Lease, has offered to fund a community benefits package with a total contribution of \$13 million to be available at about \$250,000 per year over the life of the project. SFEC proposes that disbursement from the fund be guided by a community-based organization on worthwhile community projects. With this fund, the people of Bayview Hunters Point will have money available to do the things that the community wants done.—SFEC's commitment to create the

community benefit fund is firm and serves as a keystone in the Commission's determination that the benefits of the project to the community outweigh any burdens. The Commission thus believes that locating the facility in Bayview Hunters Point, in a manner consistent with all environmental laws and land use 16plans, meets the concerns of the Intervenors who view certain types of industrial development as a form of environmental injustice.

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#### PROJECT DESCRIPTION

San Francisco Energy Company (SFEC) proposes to construct and operate a combined-cycle cogeneration electrical generation facility capable of generating up to 240 megawatts (MW) net capacity in the Bayview Hunters Point area of San Francisco, California. The facility will generate electricity and waste steam using natural gas as the sole fuel source and is designed to operate 24 hours per day. Natural gas will be provided via-either the existing Pacific Gas & Electric Company (PG&E) or the proposed Mojave Pipeline Company (Mojave) gas pipeline.

The electricity produced from by the facility will be sold under a contract to PG&E, via a connection to the existing 115 kilovolt (kV) Hunters Point substation. Steam generated by the project may will be used in a wastewater reclamation facility (WRF) and/or sold to San Francisco Thermal L.P. (SF Thermal) via a new four-mile steam pipeline for use in the existing steam heating and cooling system. SF Thermal provides steam to about 200 customers around San Francisco through 11.2 miles of steam pipelines and mains. This steam is used for space heating, domestic hot water, absorption air conditioning, and in commercial processes. The steam provided by SFEC will represent a major portion of SF Thermal's annual steam requirements. SF Thermal currently produces steam using two natural gas fired boilers, one of which operates 365 days per year. SF Thermal is regulated by the California Public Utilities Commission (CPUC).

In addition to the cogeneration facility, if an agreement with SF Thermat is reached, SFEC proposes to construct a wastewater treatment facility at the project site. If no agreement is reached, SFEC proposes to construct a WRF to treat secondary effluent from the City of San Francisco's Southeast Water Pollution Control Plant (WPCP). Both proposals have been reviewed by the Commission will utilize a filtration and reverse osmosis system to treat secondary waste water for use in the facility.

The proposed project is the result of a competitive bidding process designed to displace PG&E's aging and inefficient powerplants with new, more efficient and economical resource

additions. This competition, held under the guidance and direction of the California Public Utilities Commission (CPUC), was the culmination of a four-year resource acquisition process known as the Biennial Resource Plan Update (BRPU). SPEC was declared the winner of the competitive bid on January 10, 1994.

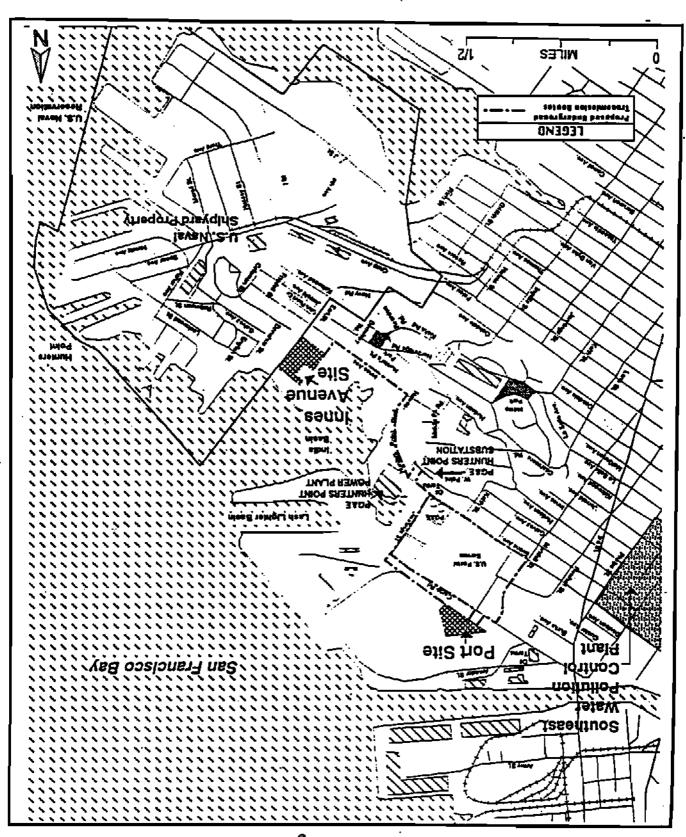
#### Facility Location

SFEC proposed two possible sites for the project in its original Application for Certification: the "Innes Avenue" site; and the "Port" site. On April 28, 1995, the Applicant requested that review of the Innes Avenue site be suspended, without prejudice. The Port site is located near PG&E's Hunters Point powerplant in the Bayview Hunters Point area of San Francisco. The local setting for the project is depicted in PROJECT DESCRIPTION FIGURE 1. The regional setting of the project is shown in PROJECT DESCRIPTION FIGURE 2 and PROJECT DESCRIPTION FIGURE 3 shows the proposed equipment layout for the site.

The proposed site is a five acre developed parcel of land located on Seawall Lot 344, near the Port of San Francisco's Piers 90 and 92 on the Islais Creek Channel, and Piers 94 and 96 on the San Francisco Bay. In relation to the other properties located near Islais Creek, Seawall Lot 344 is the parcel set farthest back from the shoreline to the north and east. An additional four to five acres will be temporarily used for construction laydown, staging, and parking.

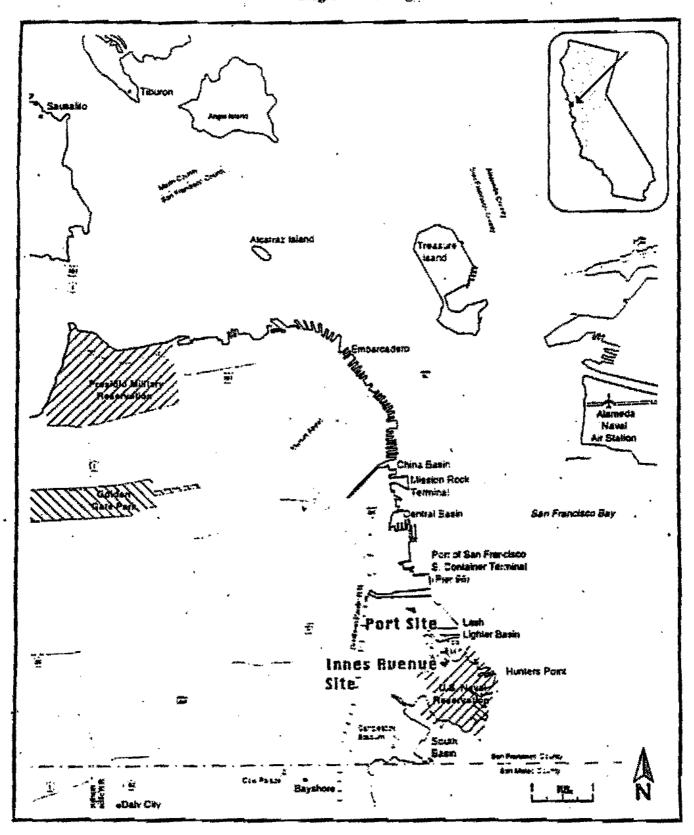
Facilities near the site include Darling International, Inc., an animal rendering facility; a United States Post Office facility with approximately 2,900 employees; and several grain elevator structures. South of the site is the Port of San Francisco's Intermodal Container Transfer Facility.

<sup>\*</sup>On May 5, 1995, the Committee issued an ORDER TO SHOW CAUSE directing the Applicant to demonstrate why the certification review of the Innes Avenue site should not be suspended indefinitely without prejudice. Subsequently, the Committee by ORDER of May 16, 1995, suspended the regulatory review of the Innes Avenue site.



PROJECT DESCRIPTION FIGURE 1

# PROJECT DESCRIPTION FIGURE 2 Regional Setting



, Vol. I. p. 20.)

(Source:

The site is uneven terrain comprised of fill material underlain by San Francisco Bay Mud. Site grading will be required during construction in order to create a foundation for the facility. The site currently contains soils which have been contaminated. Measures will be required to assure that no dust, subsurface contaminated soils, or groundwater leave the site during construction activities, and that a Additional testing behas been done to determine the exact nature of the contamination. Remedial action, such as removal, encapsulation, or treatment will be taken to control exposure to the contaminated soils. SFEC has also indicated that clean fill material will be brought into the site during construction, if necessary.

# Powerplant Features

The proposed SFEC facility is a gas turbine driven steam powerplant and water reclamation treatment facility that will sequentially produce a net electrical output of up to 240 MW and up to 125,000 pounds per hour of steam. Approximately 50,000 pounds per hour of low pressure steam will be delivered to the WRF on a continuous basis for the production of up to 500,000 gallons per day of treated water. Approximately 85 percent of this purified water will be sent to the Southeast WPCP for consumptive uses which are currently supplied by potable water from the San Francisco Department of Public Works. The remaining water will be used in the facility as feedwater to the heat recovery steam generator (HRSG) for steam production. Alternatively, sSteam may will be sold to SF Thermal for use in its district heating and cooling system. Per a Letter of Intent, the Steam Sales Agreement (September 8, 1995) SFEC will deliver up to 125,000 pounds per hour of steam to SF Thermal. On an annual basis, this is an average of approximately 85,000 pounds per hour.

An average of 2,055 gallons per minute of cooling water for the powerplant is proposed to be secondary effluent supplied by wastewater pipeline from the WPCP and treated on-site. As a result, the powerplant will not require cooling water from San Francisco Bay (Bay). The

<sup>&</sup>lt;sup>5</sup> Additional information on soil contamination is discussed in the SOIL and WATER RESOURCES/SITE REMEDIATION section of this Decision.

project will not discharge into the Bay since all wastewater would be returned to the WPCP through either the sewer system or a direct pipeline. Per the "Draft Effluent Purification Services Agreement" with the City and County of San Francisco, up to 3,500 gallons per minute of secondary effluent will be delivered for cooling water and makeup water to the water purification process.<sup>6</sup>

The cogeneration facility's basic power generation configuration consists of a single power block containing a 140 MW natural gas-fired General Electric Frame 7FA combustion turbine generator (CTG) with dry low-NO<sub>x</sub> combustors. Natural gas will be the only fuel burned in the turbine generator. The hot gas flow spins a turbine connected to a synchronous generator that produces electricity. The combustion exhaust from the CTG is directed through the HRSG where more energy is extracted from the exhaust gases in the form of steam. The HRSG has supplemental firing or duct burning which is designed to augment the production of steam during varying ambient conditions. The steam is directed to a 100 MW steam turbine generator (STG) where more electricity is produced. This combined-cycle configuration (CTG and STG) produces electricity at an efficiency of over 50 percent, which means that over half of the useful energy consumed by the facility is converted into electricity.

The HRSG contains a selective catalytic reduction (SCR) system with aqueous ammonia injection to reduce nitrogen oxide (NO<sub>x</sub>) emissions to 3.25 parts per million (ppm). The HRSG may will contain an oxidation catalyst to reduce carbon monoxide (CO) emissions to 3 ppm; should the CTG alone be unable to meet that emission level.

The highest structure at the facility would be an emission stack 110 feet in height. The tallest structure related to the facility would be the HRSG building which measures 90 feet in height. A wet/dry cooling tower will be used to provide cooling for the steam turbine. The

<sup>&</sup>lt;sup>6</sup> The City of San Francisco and San Francisco Energy Company have not yet reached a final agreement on a water supply for the project. Any contract that is eventually negotiated between the Department of Public Works and San Francisco Energy Company must be approved by the San Francisco Board of Supervisors.

cooling tower, in combination with a circulating water and fire pump facility, will measure 602 feet in height.

Operation of the facility will require the use, delivery, storage, and disposal of a number of hazardous materials including aqueous ammonia.<sup>7</sup>

# Natural Gas Pipeline Routes

The PG&E natural gas pipeline nearest to the site is located at the corner of Phelps Street and Evans Avenue. To connect the existing pipeline to the project site, SFEC proposed two alternative routes from this intersection. The first alternative route would proceed southeast along Evans Avenue to Mendell Street and then turn northeast to follow Mendell Street to Cargo Way. From this point the route would proceed across Cargo Way onto the site.

The second route would proceed northwest along Evans Avenue to Quint Street and then turn northeast on Quint. At the intersection of Quint Street and Cargo Way the route would turn southeast to follow Cargo Way until it is adjacent to the site. Both of these routes were identified to minimize disturbance to traffic on Third Street.

## Waste Water Pipeline Routes

SFEC proposed two alternative water pipeline routes from the Southeast WPCP to the Port site. The first proceeds southeast along Evans Avenue to Mendell Street and then turns northeast, following Mendell Street to Cargo Way. From this point it continues on Cargo Way onto the project site.

<sup>&</sup>lt;sup>7</sup> For a complete description of how these materials will be used, delivered, stored, and disposed, refer to the TRAFFIC and TRANSPORTATION, HAZARDOUS MATERIALS MANAGEMENT, AIR QUALITY, and PUBLIC HEALTH sections of this Decision.

The second alternative proceeds northwest along Evans Avenue to Quint Street and turns northeast. At the intersection of Quint Street and Cargo Way the route turns southeast and follows Cargo Way until it is across from the project site.

As with the gas pipeline routes, SFEC indicates that both of these routes were identified to minimize disturbance to traffic on Third Street.

## Transmission Line Routes

Undergrounding the electric transmission line will require that an underground transition structure 22 feet in height be constructed at the site. A similar structure will be constructed at the PG&E Hunters Point substation in order to provide a transition for the underground line to the above-ground connection to PG&E's electric system. The nearest residence to the transition structure location at the site is at Hudson and Innes Avenues, approximately 2,100 feet away. At the PG&E Hunters Point substation the nearest residence is approximately 2,000 feet from the transition structure site.<sup>8</sup>

#### Steam Pipeline

If SFEC completes its agreement with SF Thermal, s\(\)steam will be delivered from the project site to SF Thermal via a new 12 to 16-inch diameter insulated pipeline at a pressure of 205 per square inch (psig) and 404°F. The pipeline will involve approximately four miles of trenches with an average depth of ten feet and an average width of three feet. Steam flow through the pipeline will average 85,000 pounds per hour (lb/hr), with a peak anticipated to be 125,000 lb/hr. The project will annually provide SF Thermal 700 million pounds of steam.

<sup>&</sup>lt;sup>8</sup> For further information on this transmission line, please see TRANSMISSION SYSTEM ENGINEERING and TRANSMISSION LINE SAFETY AND NUISANCE sections of this Decision.

SF Thermal provides steam to about 200 customers around San Francisco through 11.2 miles of steam mains. This steam is used for space heating, domestic hot water, absorption air conditioning, and in commercial processes. The steam provided by SFEC will represent a major portion of SF Thermal's annual steam requirements. SF Thermal currently produces steam using two natural gas fired plants, one of which operates 365 days per year. SF Thermal is regulated by the California Public Utilities Commission (CPUC).

## Construction

Construction of the powerplant will occur in four major steps: site preparation/ remediation; construction of the foundations and structures; mechanical and electrical equipment installation; and startup and testing.

The construction phase ends when the nonoperational testing of components and systems is completed. After the facility is determined to be mechanically complete, the startup and operational testing of the facility will begin. Startup testing includes emission testing and monitoring to assure compliance with all applicable permits as well as performance testing to verify conformance with equipment specifications. Finally, during the startup and testing phase, all personnel receive site-specific training on the operation of the facility.

Construction and startup of the entire project (including the cogeneration facility, wastewater-reclamation treatment facility, and all utility connections) will take approximately eighteen months following certification.

#### **DEMAND CONFORMANCE**

The Warren-Alquist Act requires the Commission to make a finding regarding a proposed project's conformity with the <u>Electricity Report's</u> (ER) "integrated assessment of need for new resource additions." (Pub. Resources Code, § 25523(f).) The applicable ER is that adopted most recently prior to acceptance of an Application for Certification, in this case ER 92 (Cal. Code Regs, tit. 20, § 1720.5.) An affirmative demand conformance finding is necessary for certification. (Pub. Resources Code, § 25524.)

## 1. Background.

In siting proceedings prior to the SFEC application, the Energy Commission reviewed demand conformance on a case-by-case, first come, first served basis. Historically, beginning with the 1977 Biennial Report, applications were based upon a "physical" need to meet increased demand. The "economic need" test began in 1990 with ER 90. The SFEC application thus is the first proposal resulting from a process begun in ER 90 and continued in ER 92 which seeks to coordinate the planning and oversight functions of the Energy Commission and the California Public Utilities Commission (CPUC).

In this era of a State-wide excess of generating capacity, the Energy Commission identified utility facilities which could be replaced because they were less marginally uneconomic, less efficient, and more polluting than new powerplants. Under this "economic" need approach, only new generation which would reduce utility system average costs, benefitting ratepayers, would be added. In turn, the CPUC required the utility owning such a facility, labeled the "Identified Deferable Resource", to calculate its own costs of installing a new facility or repowering the facility. Using the utility estimates as a benchmark, the CPUC established an auction process, called the Biennial Resource Plan Update (BRPU), to permit independent, non-utility energy developers to bid competitively against the utility estimate. Ultimately, a bid winner would be declared as the least-cost option for providing the needed generation. If the

winner were an independent developer, it would be eligible for CPUC pre-approved Final Standard Offer No. 4 (FSO4) contract with the receiving utility.

To streamline the regulatory process, the Legislature adopted AB 1884 (Chapter 1108 of 1993; Pub. Resources Code, § 25523.5) to exempt winners in the competitive bidding process from making the traditional showing of demand conformance in the Energy Commission's siting review. Thus, a BRPU bid winner could be deemed "needed" for purposes of the Energy Commission's required demand conformance finding.

## 2. <u>Demand Conformance Issues</u>.

This is the Commission's first review of a proposed project arising from the CPUC's BRPU process. Accordingly, the Committee conducting this proceeding maintained close oversight of the development of demand conformance issues—among others—

Among the events potentially affecting the need review was a February 23, 1995 Order<sup>9</sup> by the Federal Energy Regulatory Commission (FERC) on petitions by Southern California Edison (SCE) and San Diego Gas and Electric Company (SDG&E) invalidating the BRPU process for not allowing all-source bidding in violation of the federal Public Utilities Regulatory Policy Act (PURPA). However, FERC did not invalidate uncontested, executed contracts in this Order.

SFEC claims it has a valid, BRPU-derived FSO4 contract, even though Pacific Gas & Electric Company (PG&E) has not signed the contract.

Certain "need" issues also arose at a public hearing on April 11, 1995, which caused the Committee to enumerate several issues for briefing in advance of the evidentiary hearings which established the record for this Decision. Subsequently, on April 28, 1995, the Committee

Order on Petitions for Enforcement Action Pursuant to section 210(h) of PURPA (70 FERC 61,215 (1995).)

released its COMMITTEE ORDER RE ADDITIONAL ANALYSIS directing the parties to brief the following issues:

- Is an executed power purchase agreement needed for an affirmative finding of need under the 1992 Electricity Report (ER 92)?
- Does a power purchase agreement exist in a legal sense?

In addition, the Committee directed the parties to address the effects, if any, of a change by PG&E to its San Francisco Operating Criterion (SFOC) regarding reliability requirements for San Francisco made prior to the ER 92 need assessment and arguably unknown to the Commission in adopting ER 92:

- Is the use of the "old" SFOC determinative of the ER 92 finding related to the identification of the Hunters Point IDR (Identified Deferrable Resource)?
- Would the use of the "new" SFOC instead of the "old" SFOC substantially change or reverse an ER 92 need analysis for this project?

SFEC, the Commission staff, and Intervenors Morgan Heights Homeowners Association/Innes Avenue Coalition filed briefs on these issues.

Additionally, ER 92 provides that an applicant shall submit a transmission interconnection agreement as a requirement for certification. (ER 92 at p. 133.) To date, SFEC has provided only a preliminary agreement.

#### 3. <u>Summary of Evidence</u>.

#### a. <u>SFEC</u>

SFEC offered a tiered, alternative approach for its demand conformance showing. First, SFEC argued that the project was deemed "needed" under Public Resources Code section

25523.5 (AB 1884) as the BRPU winner. Next, SFEC contended that the project conforms to ER 92's integrated assessment of need by virtue of winning the BRPU bid. Finally, SFEC contended that the project was cost-effective within the meaning of ER 92.

1993 BRPU-Winner Result. SFEC placed into evidence its AFC, section 2 - Need for Proposed Facility - which stated that PG&E announced on January 10, 1994, that AES Pacific, Inc. (Applicant), was the final winning bidder in the Hunters Point auction. (7/6/95 RT 134:4; AFC, p. 2-12.) SFEC argued it is therefore a "result" of the CPUC BRPU auction process and thus deemed needed as a matter of law under the terms of Public Resources Code section 25523.5(a). SFEC also introduced into evidence the FSO4 contract, with proof of site control and irrevocable letter of credit (Ex. 1) which it signed on April 24, 1994, after PG&E announced that the project had won the BRPU auction. (7/6/95 RT 34:14.)

<u>Cost-Effectiveness</u>. To support its alternative theory of demand conformance, SFEC offered two witnesses who had performed modeling to establish that the proposed project was cost-effective compared to the established Hunters Point repowering IDR.

One modeling exercise employed the SERASYM model using current data and analyzed the PG&E system with and without the SFEC project, using the "old" and the "new" San Francisco Operating Criterion (SFOC).<sup>2</sup> SFEC's witness panel testified that if the "new" SFOC had been used in place of the "old" SFOC in the ER 92 need assessment, it would not have resulted in a different socially least-cost option. Acknowledging that there was a difference between the "old" and "new" SFOC, the witnesses stated that the difference was minor, and not

<sup>&</sup>lt;sup>2</sup> The "old" SFOC required 50 percent San Francisco-based generation to meet loads in the event of an emergency contingency isolating the City from the PG&E transmission grid. The "new" SPOC lowers the requirement for San Francisco-based generation during non-peak loads based upon economic dispatch of San Francisco units.

Responding to Staff's objection that this modeling testimony "re-examined" ER 92 rather than relied upon ER 92, the Committee admitted the testimony for the limited purpose of addressing the materiality of any change in using the "old" versus "new" SFOC in identifying the need in ER 92 for the Hunters Point IDR.

enough to change the need for a Hunters Point project identified in ER 92. (7/6/95 RT 117:3-25.)

The other modeling exercise employed ELFIN to analyze the relative cost-effectiveness of the proposed project in comparison to the Hunters Point repowering. The Committee allowed SFEC to make an offer of proof, stating that the testimony using the same modeling method and ER 92 data would demonstrate that the proposed project is cost-effective using the ER 92 criterion and would provide substantial benefits to PG&E ratepayers in comparison to alternate resources.<sup>11</sup>

PG&E Criterion. SFEC also offered the testimony of a transmission and system analyst who prepared answers to Intervenors' Data Requests ALTERNATIVES 1-3.<sup>12</sup> Responding to Staff's objection that this testimony dealt with project alternatives, the Committee admitted the testimony for the limited purpose of addressing the materiality of any change in using the "old" versus "new" SFOC in identifying the need in ER 92 for the Hunters Point IDR. (7/6/95 RT 91:21-25.)

The Intervenors' (Data Request ALT-1) inquired whether PG&E's 1991 transmission upgrades leading to the "new" SFOC were sufficient to meet the need identified in ER 92. SFEC responded (6/23/95) that PG&E's transmission upgrades were known in the ER 92 process and did not affect the finding that the Hunters Point repowering was needed. The answer also stated that PG&E's San Francisco *Planning* Criteriona<sup>13</sup> show that the transmission upgrades

<sup>11</sup> The Committee allowed this offer, but sustained Staff's objection to admission; it is noted here for the recording on appeal. If necessary.

<sup>&</sup>lt;sup>12</sup> The language in the Intervenors' Data Requests ALT-1 & 3 directed to SFEC is virtually identical to that in the Intervenors' Need Data Requests 1 & 3 directed to PG&E.

Planning Criteria (SFPC) is that the SFOC addresses the "operation" of PG&E's generating system in San Francisco Planning Criteria (SFPC) is that the SFOC addresses the "operation" of PG&E's generating system in San Francisco in case the City becomes isolated from the remainder of PG&E's transmission grid due to earthquake, aircraft accident or transmission grid disruption. The SFPC considers a larger transmission system context than when San Francisco might be isolated from PG&E's grid. This context includes "planning" sufficient transmission capacity to serve the San Francisco loads, including other types of transmission outages on the peninsula.

do not obviate the need for San Francisco-located generation in order to ensure reliability under certain planning contingencies. Additionally, this response stated that the 260 MW transmission upgrade cannot be equated with added generation for two principal reasons. First, generation must be increased somewhere on the PG&E system to utilize the 260 MW of increased transmission capacity— this So generation is not—being displaced by transmission upgrades. Second, one of the reasons for having local generation and the SFOC is to maintain voltage levels in San Francisco during an emergency. Increased transmission capability using imported generation is not an effective way to maintain these voltage levels in San Francisco. (6/23/95 Data Responses to Intervenors' ALT-1.)

The Intervenors Data Request ALT-2 asked why, in light of 1991 transmission upgrades adding 260 MW of transmission resources, does PG&E continue to show generation still near 50 percent as in the "old" SFOC? SFEC's witnesses explained that the "new" SFOC allows for more economic scheduling of generation resources during off-peak and partial-peak periods. <sup>14</sup> Thus, during these periods, the percentage of local generation may be less than 50 percent of San Francisco loads. The most critical time for adequate generation is on-peak. Thus In these critical periods, PG&E desires local generation reaching 50 percent of load, similar to the "old" SFOC. Without local generation, imported generation will heavily load the transmission lines, which sets up chain-reaction conditions for possible voltage collapse. In many cases, only a dynamic reactive power supply, such as generation or synchronous condensees can reverse this potential chain reaction. (6/23/95 Data Response to Intervenors' ALT-2.)

Intervenors Data Request ALT-3 also queried concerning the minimum facility needs (in MW) for backup purposes taking into account the 1991 transmission upgrades, the revised SFOC, and the retirement of Hunters Point Units 2 and 3. The witnesses explained that the ER 92 need determination was economic in character, concluding that the repowering of Hunters Point Units 2 and 3 was cost-effective and therefore needed. The Hunters Point repowering was identified as the deferrable resource for the PG&E system and thus subject to the BRPU

<sup>14</sup> Graph in answer to Staff Data Requests ALT-18 & 19.

auction process. The current *economic* need for the repowering is independent of the increased peninsula transmission capability and any resultant change to the SFOC. Although not on the same time schedule as the current *economic* need, there will be a physical need in the future after Hunters Point Units 2 and 3 are put in long-term reserve. The SFOC will not be met by Hunters Point Unit 4 and Potrero Unit 3 beginning in 2001 after the retirement of Hunters Point Units 2 and 3 are placed in long term reserve. Based upon PG&E's San Francisco Planning Criteria, there would be a *physical* need during a single contingency event (loss of the San Mateo to Martin 230 kV cable) equal to the larger of Hunters Point Unit 4 or Potrero Unit 3. (6/23/95 Data Responses to Intervenors' ALT-3.)

SFEC's witnesses testified that if generation which is retired in San Francisco is not replaced, or if the proportion of available on-line generation decreases as demand increases on the peninsula, the reliability of service in San Francisco will deteriorate to conditions which do not achieve PG&E's operating and planning criteria. (7/6/95 RT 172: 11-15.)

Transmission. Addressing the requirement of ER 92 for a transmission interconnection agreement, another SFEC witness testified that as part of its FSO4 contract, the proposed project would interconnect at the Hunters Point substation. SFEC has a completed preliminary transmission interconnection study. As of July 6, 1995, SFEC had requested and paid for a detailed final interconnection study, which deals with cost matters but not the feasibility of the receiving substation to accept the interconnection. (7/6/95 RT 177:4 - 178:14.) As to the FSO4 contract requirement of site control, this witness also testified that SFEC and the staff of the Port of San Francisco had negotiated a Port Lease which had been initialled by both SFEC and the Port director. Final approval of the Lease awaits action by the Port Commission and Board of Supervisors following the Energy Commission's licensing review. (7/6/95 RT 35:19-36:2.)

### b. Commission Staff

Staff testified that, given the dispute between PG&E and SFEC over the existence of the FSO4 contract, it could not make an unconditional recommendation as to demand conformance.

(FSA, Vol. I, p. 33.) In supplemental testimony, Staff recommended inclusion of a condition subsequent in the Decision that hefore any construction begins there be a determination that the FSO4 contract be found enforceable. (7/6/95 RT 231:11-24.)

#### c. Intervenors

The Morgan Heights Homeowners Association and the Innes Avenue Coalition (hereinafter "Intervenors") joined for the purposes of presenting testimony on demand conformance.

The Intervenors obtained subpoenas for the attendance of five PG&E witnesses who were responsible for the preparation of 4/23/95 Data Responses ALT-PG&E 18 & 19; 5/24/95 PG&E Data Responses to questions regarding ALT-PG&E 18 & 19; and, 6/30/95 PG&E Data Responses to Intervenors Data Requests NEED-1 & 3.

In its April 23, 1995 Data Response, PG&E stated that for ELFIN modeling without the SFEC project:

"...the SFOC and PG&E's plans not to retrofit [Hunters Point Unit 2 and 3 with air pollution control equipment] results in a physical need for a third plant in 2001." (p. 4.)

In its May 24, 1995 Responses, PG&E added that for ELFIN modeling without the SFEC project:

"PG&E would evaluate alternatives to the San Francisco Energy Plant which would enable PG&E to provide reliable electric service after January 1, 2001. These alternatives could include aggressive DSM [demand side management] programs, transmission upgrades or other new local generation." (p. 4.)

Responding to the Intervenors' Data Request NEED-1 asking whether PG&E's 1991 transmission upgrades leading to the "new" SFOC were sufficient to meet the need identified in ER 92, the documentary testimony stated that comparing only megawatts of added transmission

resources versus megawatts of new generation resources does not consider reliability differences between the two types of resources. For example, adding more transmission upgrades on the peninsula to lower generation requirements may require exposing the downtown San Francisco networks to under-frequency load shedding.<sup>15</sup> (Data Response No. 1, p. 2.)

In Data Request No. 2 the Intervenors asked why, if PG&E's 1991 transmission upgrades added 260 MW of transmission resources, does PG&E's graph (in answer to Staff Data Requests ALT-18 & 19) continue to show generation still near 50 percent as in the "old" SFOC? PG&E responded (Data Response NEED-2) that with the "new" SFOC the amount of on-line generation does not change significantly from 50 percent during peak periods. Direct comparisons with the "old" criterion are therefore difficult because that criterion did not insure continuous service to all customers in the event of an outage of the San Mateo-Martin 230 kV cable.

The Intervenors also inquired (Data Request No. 3) concerning as to the minimum facility needs (in MW) for backup purposes taking into account the 1991 transmission upgrades, the revised SFOC, and the retirement of Hunters Point Units 2 and 3. PG&E responded (Data Response No. 3) that the 221 MW of need identified by the CPUC is not based solely on the SFOC, but rather is a combination of both system economic need and local physical need. The Response further states PG&E would consider the minimum facility now needed for backup to be equivalent to PG&E's largest San Francisco generating unit, i.e., Potrero Unit No. 3 at 207 MW.

In addition, PG&E testified orally that in its view it does not have a fully executed contract with SFEC for the proposed project. (7/6/95 RT 191:24 - 192:2.) One of the reasons PG&E believes there is no enforceable contract is that all of the required prerequisites have not been complied with, namely identification of two sites instead of the one called for in the FSO4 contract and the absence of site control over the Port site. (7/6/95 RT 196:2-16.) There also

<sup>&</sup>lt;sup>15</sup> "Under-frequency load shedding" is a process which would automatically isolate San Francisco from the remainder of the transmission grid as frequency and associated voltages dip below required minimums.

is not an executed transmission interconnection or special facilities agreement between PG&E and SPEC. (RT 196:21-24.) PG&E acknowledged that the preliminary interconnection study identifying the Hunters Point powerplant as the point of interconnection has been completed and a detailed interconnection study to refine costs has been ordered by SFEC. (RT 197:3 - 198:1.) PG&E also acknowledged that the Final Standard Offer Contract recognizes the QF's ability to change sites. (RT 198:10:14.)

## 4. <u>Commission Discussion</u>.

The Commission will address the issues in the order the Committee asked the parties to brief the demand conformance issues.

## a. Requirement for an Executed Contract

#### The first issue follows:

• Is an executed power purchase agreement needed for an affirmative finding of need under the 1992 Electricity Report (ER 92)?

### ER 92 states:

The Energy Commission will apply the following requirements...in its need determinations:

SFEC shall disclose contract terms and conditions.

Any applicant who proposes to sell power from a facility to a utility must have for certification or a small powerplant exemption a fully executed contract or series of contracts specifying the terms and conditions under which a utility agrees to purchase the project's power. At the time of application, an applicant must file whatever agreements, documents, or other information exist regarding such terms and conditions and describing the operating characteristics of the proposed project. The Energy Commission will not require a fully executed power purchase agreement as a condition of data adequacy. The applicant must, however, file the

fully executed contract(s) in time for any necessary analyses to be completed prior to any final decision in the siting case and in any event prior to certification. The Energy Commission may process siting cases on the basis of an agreement executed between the utility and the QF but which still awaits regulatory approval. (ER 92 at pp. 132-133; Emphasis added.)

The foregoing provision became effective upon adoption of ER 92 by the Commission on January 6, 1993. Approximately one year later, on January 1, 1994, the following provisions of Public Resources Code section 25523.5 became effective:

The commission shall make an affirmative finding pursuant to subdivision (f) of section 25523 if the proposed facility is either of the following:

- (a) The result of the Public Utilities Commission's Final Standard Offer No. 4 auction on the Request for Bids issued in August 1993.
- (b) The result of a utility's competitive solicitation for new generation resources which limits the amount of new generation to an amount of capacity or energy at or below the amount of capacity or energy determined to be needed for the utility through the integrated assessment of need for new resource additions determined pursuant to subdivisions (a) to (f), inclusive, of section 25305 and adopted pursuant to section 25308, and in effect at the time that the solicitation was developed, provided that the application for certification for the proposed facility is filed within 18 months after contracts have been executed from the utility's competitive solicitation. (Emphasis added.)

Rules of statutory construction require that section 25523.5 be given precedence over administrative policy actions in ER 92 due to both the statute's status as a legislative enactment and its subsequent date of adoption. Thus To the extent possible, ER 92 must be interpreted consistently with the statute; however, any requirement expression or interpretation of ER 92 which is inconsistent with the provisions of section 25523.5 is superseded-impermissible.

Although ER 92 specifies an executed power purchase agreement to conclusively demonstrate conformance with its integrated assessment of need (ER 92, p. 122), section 25523.5(a) created an exception to this requirement. By its clear language, subsection (a) provides that a proposed facility is deemed "needed" if it was the "result" of the CPUC's 1993 BRPU auction. This subsection does not require an executed contract for the proposed facility to receive an affirmative need finding. Moreover, the absence of a requirement for an executed contract in subsection (a) and the presence of such a requirement in subsection (b) seems to the Commission to reflects a legislative intent not to require an executed contract for CPUC BRPU August 1993 auction winners—, and to recognize such projects as a separate class for need determination purposes. Since section 25523.5 does not appear vague in these provisions, the Commission's prior administrative action requirement in ER 92 requiring such for an executed contract for the need determination has been superseded by legislative action this class of projects no longer applies. 16

Thus, ER 92 cannot be read to require SFEC to produce a fully executed contract in order for the Energy Commission to make the affirmative finding of demand conformance. Instead, an affirmative finding of demand conformance must follow a demonstration that the proposed project was the BRPU bid winner. The undisputed evidence in this record is that the SFEC project is the "result of the Public Utility Commission's Final Standard Offer No. 4 auction on the Request for Bid issued in August 1993." (7/6/95 RT 20:9-12.)

Consequently, the Commission finds that by operation of section 25523.5(a) the proposed facility affirmatively conforms to section 25523(f).

The requirement in ER 92 for a power purchase agreement can be interpreted as an informational requirement needed to conduct certain analyses regarding the environmental impacts of the operation of the facility in accordance with contractual provisions, rather than to establish the existence of the contract per se. Given that the informational needs for the environmental analyses can be obtained by other means and that the FSO4 contract itself contains some operational information, there is no basis stated in ER 92 to require production of a contract indirectly for environmental analysis where it cannot be required directly under section 25523.5 for demand conformance.

Although to The Commission believes that considers the foregoing analysis and conclusion should be dispositive of the demand conformance issue, it nonetheless will proceed with a review of other demand conformance issues raised during the proceeding to more fully explore contentions raised by various parties. The Commission nevertheless considers below whether the SFEC project alternatively complies with the demand conformance criteria of ER 92.

b. Existence of a Valid Executed Contract Power Purchase Agreement Within the Meaning of ER 92

The next issue in the COMMITTEE ORDER RE ADDITIONAL ANALYSIS is:

Does a power purchase agreement exist in a legal sense?

Assuming arguendo that the requirement in ER 92 for a power-purchase agreement prior to certification controls the provisions of section 25523.5, then the foregoing question must be answered affirmatively for certification. However, this issue has two components. First, was there an offer and acceptance, together with compliance with the Milestone Procedures, so as to create a valid FSO4 contract? Second, if a valid FSO4 contract existed as of February 1995, was it invalidated by the FERC Order on the BRPU? This question has two components. First, has SFEC's presentation of the FSO4 contract satisfied the requirement for an executed power purchase agreement within the meaning of ER 92? Second, if so, has the FERC order on the BRPU affected a change such as to require the Consmission to after its determination on this issue?

## i. Existence of the Contract

The record shows that there is a dispute between SFEC and PG&E regarding the legal existence of an FSO4 contract. SFEC offers the FSO4 contract (Ex. 1) which it signed and delivered to PG&E in April 1994, as evidence of an executed contract. PG&E contends that the

absence of its signature on the FSO4 contract and SFEC's failure to meet all Milestone Procedures demonstrates the non-existence of an executed contract.

The parties argue that a contractual dispute can only be decided in a judicial forum. This judicial jurisdiction does not, however, preclude the Commission from determining for its own purposes whether an executed FSO4 contract exists using the general body of law available to another forum.

# ii. Offer and Acceptance Nature of the FSO4 Contract

The FSO4 contract is a creation of the CPUC. A review of applicable Orders demonstrates that the CPUC regards the FSO4 contract as a legally mandatory offer by the utility requiring only acceptance by the QF. In its Order<sup>17</sup> settling issues on FSO4 contracts, the CPUC stated a chronological overview of "How Final Standard 4 Works" which is partially restated below:

The first step is the utility application. Following the latest Electricity Report of the California Energy Commission (CEC), the Pacific Gas and Electric Company (PG&E), the San Diego Gas and Electric Company (SDG&E), and the Southern California Edison Company (Edison) each file a resource plan with a 12-year planning horizon. The plan identifies potential resource additions that SFEC the applicant futility] believes are cost-effective for its system. The plan states the cost associated with each such resource and the point in the planning horizon that resource becomes cost-effective.

. . -

The second step is hearings on the utility applications. The Commission's public staff and other participants critique each resource plan.

. . .

<sup>&</sup>lt;sup>17</sup> D.87-05-060 [24 CPUC2d. 253, 258-259] May 29, 1987.

The third step is Commission determination of avoidable plants for the respective utilities. Avoidable plants are essentially the cost-effective resource additions appearing in the first eight years of the resource plan scenario chosen by the Commission. This choice is the key Commission act in the long-run standard offer process.

. . .

The fourth step is the utilities' solicitation process and QF auction. After making any modifications ordered by the Commission, the utilities announce the availability of long-run standard offer contracts based on the capacity and the fixed and variable costs of the avoidable resource(s). QFs have a three-month solicitation period to respond. Each interested QF indicates (1) the resource that the QF seeks to avoid, (2) the QF's own technology and capacity, and (3) the QF's bid, which is the lowest percentage of the resource's fixed costs that the QF would be willing to except. The bid cannot exceed the resource's fixed costs. The utility opens the responses at the end of the solicitation...

Contract signing occurs after the winning bidder[18] complies with the prerequisites of the QF Milestone Procedure, roughly one year after the utility applications.

The CPUC's policy regarding offer and acceptance of a standard offer contract appears to have been established in the context of the earlier *Interim* Standard Offer, the contractual predecessor to the Final Standard Offer. In 1985, the CPUC effectively suspended<sup>19</sup> Interim Standard Offer No. 4 following a rush of contract signing by private developers which committed the utilities to purchase their new electrical generation. The standard offers had been created by the CPUC to implement the federal Public Utilities Regulatory Policy Act (PURPA; 16-USC 824), which mandated public utilities to purchase privately cogenerated electricity to further energy efficiency and conservation. The standard offers were available to all takers. At the time, California's major utilities opposed the standard offers, arguing that the developer-

<sup>&</sup>lt;sup>18</sup> "Designation of the winning bidders does not constitute 'award' of Final Standard Offer 4 contracts to those bidders. They are entitled to Final Standard Offer 4 contracts, provided the they comply with contract-signing prerequisites of the QF milestone procedure in timely fashion. This follows from our direction in D.86-07-004 that the QF developer need not satisfy all contract-signing prerequisites at the time its bid is submitted." (24 CPUC2d 253, 260.)

<sup>19</sup> D.85-04-075.

signed offers created far more new electric generation than was forecast to be needed and the price for such electricity was too high.

However, the CPUC's suspension of the Interim Standard Offer No. 4 on May 17, 1985 created a class of developers who had signed the available contracts before May 17th, but the receiving utility had not signed the contracts. Thus, an issue arose to clarify whether an Interim Standard Offer No. 4 contract signed by the QF, but not the utility, was a valid contract for the sale of electricity.

The CPUC addressed this issue in D. 85-06-163 [18 CPUC2d 264, 277]:

In the case of a standard offer, we believe that our prior orders have provided us with clear directions on this issue. Those decisions, as recited above, demonstrate that the standard offer is to be a contract in the "traditional" legal sense and not just a form requiring further utility negotiation or approval. The "offer and acceptance" theory of mutual assent to contract terms is precisely the approach we adopted for the standard offer. The terms of the agreement are those which the utility is obligated to offer, which the utility has participated in crafting, and from which no utility can deviate, except in the case of a nonstandard agreement. The offer embodying those terms is to be extended by the utility to all qualifying facilities for their "acceptance." Once accepted, the utility is to have no discretion in refusing the agreement or altering its terms. A contract is formed with the qualifying facility's acceptance of those terms which would be indicated by a standard offer completed and signed by the qualifying facility and delivered to the utility. (Emphasis added.)

On November 24, 1993, PG&E petitioned<sup>26</sup> the CPUC to insert language in the FSO4 contracts to reflect PG&E's view and concern that it was not freely entering into the FSO4 contract. The CPUC rejected PG&E's request to change the contract from a "Power Purchase Agreement" to a "Power Purchase Obligation" restating the CPUC's view that standard offers were "conventional bilateral contracts" with benefits flowing to both the utility and the QF from the use of a standard offer contract (52 CPUC2d 453):

<sup>20 52</sup> CPUC2d 451; D.93-12-035.

[The CPUC] originally developed the standard offers to reduce the transaction costs of negotiating contracts between utilities and QFs, to neutralize the tremendous bargaining advantage the utilities possess as the only available purchaser of QFs' power, and to give the utilities assurance by presenting examples of packages to terms and conditions that are deemed reasonable. (52 CPUC2d 452.)

PG&E argued that it was compelled by the CPUC to enter into the FSO4 contracts. While the CPUC expressed that PG&E stated the point "too strongly" it nonetheless acknowledged that "... any compulsion underlying the utilities' standard offers is based on our regulatory authority and our desire to promote competition in electric generation and to comply with PURPA." (52 CPUC2d 453.) The CPUC accepted PG&E's requested addition of language stating, "PG&E's obligation to purchase under this Agreement derives in part from the orders of the California Public Utilities Commission." (52 CPUC2d 455.)

On April 27, 1994, PG&E filed (I.89-07-004 & I. 90-09-050) a motion requesting that the CPUC issue an order suspending the Hunters Point IDR arguing that the CPUC's proceeding on electric industry restructuring effectively superseded PG&E's January 10, 1994, announcement of the SFEC project as the BRPU winner. Among the issues discussed was whether an FSO4 contract exists.

The CPUC cited D.85-06-163 [18 CPUC2d 264], referred to above, indicating that an Interim Standard Offer contract is formed when the QF completes, signs and delivers the standard offer contract to the utility. (D. 94-06-050; Slip Opinion at p. 9.) The CPUC reviewed AES's (i.e., SFEC) claim that it had signed the contract and satisfied all of the conditions precedent found in the Milestone Procedure which needed to be performed within the prescribed 180 days from the announcement of the winning bidder. PG&E argued that not all of the conditions precedent had been performed precisely as required. AES (SFEC) admitted some defects in performance but claimed they were immaterial or in the process of being cured. (Slip Opinion at p. 10.)

The CPUC declined to answer the issue of contract existence since completion or correction of all conditions precedent was pending. However, the CPUC denied PG&E's motion to suspend the Hunters Point IDR citing the unique reliability-based need for generation in the San Francisco area. (Slip Opinion at pp. 10, 11 & 14.)

There is thus no dispute that the CPUC regards the FSO4 as a mandatory offer made by operation of law, requiring only QF acceptance and satisfactory completion of Milestone Procedures. Further, PG&E's signature would not be required for the FSO4 contract to be executed. However, satisfactory completion of the Milestone Procedures is a necessary precedent to formation of the FSO4 contract.

Witnesses from PG&E testified that the utility believed SFEC had not completed all of the prerequisites (Milestone Procedures) sufficient to complete the FSO4 contract. (7/6/95 RT 196:2-6.) The only conditions outstanding wereSpecifically. SFEC's had identification of two sites (the FSO4 contract calls for one site), and had not demonstrated lack of site control being demonstrated for the Port site. (RT 196:7-16.) PG&E acknowledged that the Final Standard Offer Contract recognizes the QF's ability to change sites. (RT 198:10:14.) The PG&E witness did not know whether a Memorandum of Understanding between SFEC and the Port of San Francisco would satisfy the site control condition. (RT 199:11-15.) According to PG&E, SFEC has not submitted such a Memorandum of Understanding to PG&E for its review. (RT 201:16-20.)

The Energy Commission notes that at all times the Port site was offered by SFEC as an alternative consistent with California Environmental Quality Act (CEQA) review which requires consideration of alternatives that may seeks to identify environmental impacts and lessen or eliminate-these environmental impacts through mitigation or alternatives. The Preliminary Staff

<sup>&</sup>lt;sup>21</sup> SFEC submitted its AFC with two sites, the Innes Avenue site and the alternate Port site. No one questions that SFEC had site control over the Innes Avenue site at the time of filing. The Port Commission staff initialled a lease for the Port site on April 13, 1995, which is subject to approval by the Port Commission and the Board of Supervisors. In response to the Committee's ORDER TO SHOW CAUSE (dated-5/16/95May 15, 1995), SFEC withdrew the Innes Avenue site from licensing consideration.

Assessment in its review of potential environmental impacts identified significant impacts at the Innes Avenue site which were arguably not mitigable.

The Commission does not need to make findings on potential impacts at the Innes Avenue site since it has been withdrawn. However, t The Energy Commission's implementation of the CEQA review process was instrumental in SFEC's choice to withdraw the Innes Avenue site and proceed with only the Port site.

When the FSO4 contract itself permits selection of an alternate site, it would be contrary to good public policy to so strictly interpret the site selection and site control provisions of the FSO4 contract so as to prevent or limit the Commission's CEQA review from identifying an alternative site as the best means to eliminate potential significant adverse environmental impacts.

No public benefit nor contractual necessity has been suggested to be so compelling that the usual CEQA review process should be constricted in seeking to mitigate or eliminate environmental impacts. Since a BRPU FSO4 contract-holder can only construct its proposed facility with the Energy Commission's approval, the controlling consideration should be the siting outcome of the Commission's comprehensive review and mitigation, not the site selection as initially submitted.

Additionally, it appears that preliminary control of the Port site has been obtained and final site control awaits a vote after completion of the Energy Commission's licensing review. SFEC would be in a "Catch-22" if it could not obtain site control from the Port/City without Commission certification, but on the other hand could not obtain Commission certification without prior Port/City action to give it site control. Thus, from the Energy Commission perspective, the site selection and site control prerequisites appear to be sufficiently satisfied so that there is no failure to substantially comply with the Milestone Procedures necessary for formation of the FSO4 contract.

Therefore, for Commission purposes, a fully executed, valid FSO4 contract is deemed to exist SFEC has made a sufficient showing of an executed power purchase agreement to satisfy the requirement of ER 92.

#### iii. The FERC Order invalidating the BRPU

A collateral issue arises as to whether the Orders of FERC on SCE's and SDG&E's petitions, declaring the CPUC's BRPU process in violation of PURPA renders the SFEC/PG&E FSO4 contract invalid. On February 23, 1995, FERC issued its "Order on Petitions for Enforcement Action Pursuant to section 210(h) of PURPA."<sup>22</sup> On the Petitions of SDG&E and SCE,<sup>23</sup> FERC declared that the CPUC's BRPU impermissibly limited the QF-only bid process and therefore violated PURPA by assuming that any QF contract would be below the utility's benchmark price which would itself be below avoided costs. Since the utility's avoided costs are defined in FERC regulations as the cost of replacement energy the utility could generate itself or purchase from other sources (18 C.F.R., § 292.101(b)), failure to take into account the cost of replacement energy from other sources meant that the BRPU benchmark price was not necessarily reflective of avoided costs. Since the CPUC relied on a benchmark price and bidding process to establish avoided costs, the process violated PURPA by being limited to QF sellers only rather than all potential sources. FERC ordered that SCE and SDG&E were not required to enter into the BRPU contracts in their respective auctions. (Slip Opinion at p. 26.)

As to the applicability of its Order beyond SCE and SDG&E, FERC stated at p. 27:

However, we do not believe it would be in the public interest to invalidate the QF contracts that have resulted from prior solicitations in California or elsewhere that have not been challenged and are pending. Consistent with our recent order in <u>CL&P</u>, we will not entertain requests to invalidate preexisting contracts in which avoided costs were established pursuant to a state bidding procedure that

<sup>&</sup>lt;sup>22</sup> Docket Nos. EL95-16-000 and EL95-19-000 (hereinafter "Original FERC Order").

<sup>&</sup>quot; PG&E was not one of the original petitioners.

did not allow all-source bidding unless such issue has been raised and is pending or is raised in a timely appeal of a state decision. We believe that the appropriate time in which to challenge a state-imposed rate for a QF purchase is up to the time the purchase contract is signed, not years into the contract.

Not only did the CPUC seek reconsideration of the entire FERC Order, but PG&E and AES, representing SFEC, filed with FERC to clarify the effect, if any, of the Original FERC Order on the PG&E/SFEC FSO4 contract.

On June 2, 1995, FERC issued its Order on Requests for Reconsideration, denying reconsideration on the central issue of whether the CPUC's BRPU process violated PURPA's avoided cost-setting provisions. FERC did not directly address any requested clarification as to the applicability of the Original FERC Order to PG&E or AES/SFEC. To the extent that any statement was made which sheds light on the intended scope of its invalidation of BRPU contracts, FERC noted that SCE and SDG&E raised their legal challenges:

before the date they otherwise would have been compelled to execute purchase contracts with the winning bidders in the BRPU process. As the Commission [FERC] has explained in recent orders, issued after the date of the February 23 order, it does not intend to entertain belated challenges to executed PURPA purchase contracts and is extremely reluctant to upset the settled obligations of parties to, and to invalidate any of their obligations and responsibilities under, executed PURPA purchase contracts. Here, however, the expectations of the parties had not yet been settled in signed contracts codifying Edison's and San Diego's purchase obligations, and the challenge to the California Commission's [CPUC] orders was timely. (Emphasis added.) (Slip Opinion at p. 10.)

The Energy Commission has taken notice of the records of the CPUC pertaining to the PG&E/SFEC FSO4 contract in question. Those records do not suggest that PG&E launched a challenge to the SFEC contract which was comparable in scope or timing to the challenges of SCE or SDG&E to their BRPU contracts. Therefore, it is logical to presume that any PG&E challenge would not be covered within the scope of the original FERC Order. It has not been shown that the FERC order directly or necessarily precludes the FSO4 contract presented by SFEC.

Furthermore, the general doctrine of detrimental reliance also appears applicable here since SFEC has acted in reliance upon government actions and the terms of the FSO4; reliance began with SFEC's participation in the BRPU auction.

In the fall and winter of 1993/1994, the BRPU was in flux. This resulted from the major California utilities' suspending their solicitations claiming auction prices were too high. Nonetheless, the CPUC directed PG&E to announce the Hunters Point IDR winner since that IDR was based on reliability considerations. (D.94-91-020.) Following this January 10, 1994, announcement, SFEC undertook to secure a letter of credit for the project fee, secure a site, satisfy the other Milestone Procedures, and prepare the Application for Certification (AFC) for submittal to the Energy Commission.

In April 1994, PG&E petitioned the CPUC seeking to suspend the Hunters Point solicitation claiming the electric industry restructuring initiative had effectively ended the BRPU process. PG&E's petition was denied on June 22, 1994. (D.94-06-050.) In denying the suspension, the CPUC noted that as of that time AES (representing SFEC) had spent over several million dellars to that point in pursuing the BRPU. (Slip Opinion at p. 10.) Moreover, the CPUC restated the unique attributes of the Hunters Point IDR and the necessity of a QF located in San Francisco or northern San Mateo County.

SFEC submitted its AFC to the Energy Commission on July 29, 1994. Since Commission acceptance of the AFC for review on September 7, 1994, SFEC has expended additional monies and substantial effort to supply information to the Commission staff and others in order to obtain certification of its project. SFEC has relied on the terms of the FSO4 contract in pursuing licensing. Even though engaged in negotiation with PG&E to modify the FSO4, the standard FSO4 has remained the contract to which all parties would have to return if negotiations did not produce another contract.

Thus, in the absence of language in the FERC-Order on Requests for Reconsideration specifically applying this ruling to PG&E's BRPU participation or to the PG&E/SFEC FSO4

contract, and with a valid, executed FSO4 contract upon which SFEC has acted in detrimental reliance, the Commission concludes that the FERC orders do not invalidate the PG&E/AES (SFEC) FSO4 contract nor otherwise bar further processing of the siting application.

Therefore, even if the requirements of ER 92 requiring an executed contract were to prevail in light of the provisions of the Public Resources Code section 25523.5, the Commission finds that, for the purposes of its determination, a valid, executed FSO4 contract exists between PG&E and SFEC arising from the BRPU auction. In this case, the proposed project would also be needed.

Therefore, the Commission that the PERC order does not negate SFEC « showing of a power purchase agreement within the meaning of ER 92.

#### c. Integrated Assessment of Need

The Commission will proceed with its We believe that a review of other demand conformance issues is appropriate as to other buses for an affirmative need finding in order to make this Decision sufficiently comprehensive to address all matters raised by all the parties in this proceeding.

The Energy Commission conducted an Integrated Assessment of Need as part of the ER 92 process. For the PG&E service area, the Commission found that the PG&E system will have sufficient capacity to meet its target reserve margin through the year 2009. Overall, PG&E has an opportunity to economically add new capacity by systematically displacing generation from less efficient and more polluting plants while lowering the total cost of operating its system. (ER 92 at p. 95.)

The Commission concurred with its Staff and PG&E that:

the repowering of Hunters Point Units 2 and 3 is a socially least cost-option in 1999[24]. The San Francisco constraint, which requires that 50 percent of PG&E's system need in San Francisco be met by local generation on the San Francisco peninsula, makes the repower cost-effective. The Hunters Point repower would reduce fuel costs significantly by taking over system support responsibilities from older steam units at Potrero and Hunters Point.

... The need for the repower assumes the new unit operates as a must-run plant. It would replace existing, less efficient plants in this capacity. The resulting fuel and air emissions savings make the project cost-effective. This resource would not be cost effective as soon as it is if it did not relieve older plants of system support responsibilities. (ER 92 at p. 96.)

Thus, the Energy Commission identified the Hunters Point IDR for acquisition under ER 92. (ER at p. 97.) In turn, the CPUC included the Hunters Point IDR in the BRPU bid process. Ultimately, the SFEC project was declared the winner of the BRPU bid.

To win this bid, the SFEC project was necessarily more cost-effective than the PG&E benchmark price for the Hunters Point repowering. Thus, the SFEC bid also would be more cost-effective than the ER 92-established level of cost-effectiveness which made the Hunters Point repowering the socially least-cost option. By winning the BRPU bid, SFEC's project is preferable to ER 92's socially least-cost option (i.e., PG&E's Hunters Point repowering) and thus complies with the Integrated Assessment of Need of ER 92.

## i. San Francisco Operating Criterion

As noted above, ER 92 at pages 95-96 stated:

The San Francisco constraint, which requires that 50 percent of PG&E's system need in San Francisco be met by local generation on the San Francisco peninsula, makes the repower cost-effective.

<sup>&</sup>lt;sup>24</sup> The CPUC found the Hunters Point repower to be cost-effective in 1997. The Energy Commission agreed on 1997 to avoid regulatory delay and uncertainty. (ER 92 at p. 96.)

The "San Francisco constraint" is PG&E's San Francisco Operating Criterion (SFOC). In determining need in the PG&E service area in ER 90 and ER 92, the Energy Commission used the SFOC. The SFOC requires at least 50 percent of San Francisco's electricity demand be met by generation located on the peninsula.

On April 1, 1994, PG&E filed with the CPUC its Report on the Reasonableness of Electric Operations for 1993. In pertinent part this report states:

In early 1992, PG&E revised the SFOC (San Francisco Operating Criterion) to reflect the increased transmission capability due to the reconductoring and improved transmission reliability due to upgraded protective relaying and SCADA operations.<sup>[25]</sup>

Prior to this revision, the SFOC required at least 50 percent of the total San Francisco load to be supplied from local generation during the daytime hours Monday through Saturday. During the remaining hours, the local generation was dispatched based on economics. Currently, the local generation is dispatched economically during all hours of the day except when the San Francisco area load requires local generation to be loaded to a level higher than economic dispatch. Normally, Potrero Unit 3 (207 MW) and Hunters Point Unit 4 (163 MW) are sufficient to meet the SFOC criterion due to their capacity and because they are the most efficient San Francisco units. However, when either Potrero Unit 3 or Hunters Point Unit 4 is shut down for maintenance or is otherwise limited, the other Hunters Point Units (Units 2 or 3 or both) or the combustion turbines are placed in service to meet the SFOC. (Pages 2-36 through 2-39.)

The PG&E report was introduced into the administrative record of this proceeding. An issue then arose as to whether PG&E's 1992 revision of the SFOC (the "new" SFOC) was known and taken into account in arriving at PG&E need findings when ER 92 was adopted in January 1993.

<sup>&</sup>lt;sup>23</sup> The reinforcing project, completed in 1991, included reconductoring the overhead 115 kV transmission lines between San Mateo and the Martin Substations, installation of upgraded protective relays, and the installation of a supervisory control and data acquisition (SCADA) system to enhance the monitoring and operation of the San Francisco distribution network.

In its April 28, 1995, COMMITTEE ORDER RE ADDITIONAL ANALYSIS, the Committee directed the parties to brief the following issues to address this matter:

- 1. Is the use of the "old" SFOC determinative of the ER 92 findings related to the identification of the Hunters Point IDR (Identified Deferrable Resource)?
- Would the use of the "new" SFOC instead of the "old" SFOC substantially change or reverse the ER 92 need analysis for this project?

SFEC, the Staff, and Intervenors responded with briefs filed on June 23, 1995. At the hearing, the Intervenors elicited testimony from PG&E witnesses that, with the revised SFOC and PG&E's contemplated long term shut-down of Hunters Point Units Nos. 2 and 3 to avoid expensive air pollution retrofits, there would not be a need for new generation capability to satisfy the revised SFOC until 2001. (6/30/95 Data Responses NEED-3.) In responses to questions regarding Data Responses ALT-18 and ALT-19, admitted into evidence, PG&E also stated its view that, if the proposed project were PG&E's, it would defer the project until 2001 and then consider transmission upgrades, aggressive conservation measures, or new local generation projects. (5/24/95 Data Responses ALT-6.)

ER 92 generally uses "economic need" as the basis for finding new generation facilities needed. Economically needed powerplants displace older, more polluting, less efficient, and less economic powerplants with new facilities which lower the utility's system average costs.

Conformity to the SFOC, whether "old" or "new", includes a reliability consideration which is an element of "physical need" in that a definitive minimum amount of generation must be operating to meet the possible contingency. The CPUC recognized, in its decision denying PG&E's petition to suspend the Hunters Point IDR, that there are such unique reliability based considerations attendant to the IDR. (D.94-06-050.)

The Energy CommissionWe finds no basis to conclude that the "old" versus the "new" SFOC would have changed the basic "need" finding in ER 92 since there are unique circumstances in San Francisco which require a substantial level of generation to be located in the northern peninsula. Moreover, the Commission's ER 92 analysis establishes that the older existing north peninsula powerplants should be economically displaced. Thus, any effectdefect from the use of the "old" SFOC in identifying the need for Hunters Point repowering in ER 92 is harmless because the "new" SFOC includes de facto the same 50 percent generation requirement at peak loads.

# d. Generic Need Test

Lastly, SFEC offered testimony to show compliance with a "generic" need test. SFEC appears to have offered this testimony as yet another means of establishing demand conformance in addition to its BRPU-winner status and its executed FSO4 contract, discussed above.

As to QFs, ER 92 contemplated only the sale of power to the major utilities through the BRPU process. Consequently, there is no non-BRPU or "generic" need test for QFs to demonstrate conformity to the demand forecast.

While SFEC's generic need testimony-more than paralleled the process used in ER 92 to establish identify and verify the socially least-cost option for as to PG&E-and Hunters Point Units 2 and 3, there was never an existing generic need test procedure available under ER 92. In the absence of such a existing generic need test, the Siting Committee or the ER 92 Standing Committee would have had to confect one such a generic test in the middle of an on-going proceeding. The Siting Committee believed it would be fundamentally unfair to create new standards for adjudicating matters at-issue in the on-going proceeding. Thus, following objections by Staff and Intervenors, SFEC's offered generic need testimony was not admitted into evidence on the grounds of relevance; however, SFEC was permitted to make an offer of proof that the generic need testimony would demonstrate that the project was superior to the PG&E Hunters Point repowering-socially least-cost option.

#### e. <u>Transmission Interconnection Agreement</u>

ER 92 requires an applicant to produce a transmission interconnection agreement, also known as a Special Facilities Agreement (SFA), at p. 133:

The Energy Commission will apply the following requirements ...in its need determinations:

3. Adequate transmission capacity must be available.

Any applicant proposing to sell power from a facility to a utility must demonstrate that transmission capacity is or will be available from the proposed facility to the service area receiving the power.... The Energy Commission will not require a fully executed interconnection or special facilities agreement as a condition of data adequacy. The applicant must, however, file the fully executed interconnection or special facilities agreement(s) in time for any necessary analyses to be completed prior to the final decision in the siting case or in any event prior to certification.

Having found that the terms of section 25523.5 enacted after adoption of ER 92 control the need determination and do not require a power purchase agreement, the Commission also finds that an executed transmission interconnection agreement cannot be an added requirement for the affirmative need finding. The value of a preliminary interconnection study is its niding the Staff in analyzing the transmission system impacts of an applicant's proposed transmission interconnection.

In this instance, SFEC is proposing to interconnect at one of the locations pre-selected by PG&E and included by the CPUC as part of the 1993 BRPU. Presumably, since PG&Eihese established—the BRPU bid specifications—knowing accounted for the amount of generation to be received and the ability of—its the transmission system to accept it, the Energy Commission's transmission system engineering review would not entail more than confirming PG&E's own studies. The obvious purpose of this requirement is to provide Staff sufficient

information to conduct its analysis. The Commission notes that at no time during this proceeding has Staff contended it lacked sufficient transmission information, and therefore concludes that the intent of this condition of ER 92 has been satisfied. Thus, the preliminary interconnection study, which has already been completed, has sufficeds for compliance with the requirement. The final interconnection study deals with private transaction costs between PG&E and SFEC which are not necessary for this Commission's transmission system engineering evaluation.

#### FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following Findings and Conclusions:

- The SFEC project is the BRPU bid winner and is thus the result of the Public Utilities Commission's Final Standard Offer No. 4 auction on the Request for Bids issued in August 1993.
- SFEC signed an FSO4 contract in April 1994 and delivered it to PG&E in May 1994;
   PG&E has not signed the FSO4 contract.
- 3. ER 92 was adopted on January 6, 1993, and requires that, before certification, an applicant produce an executed power purchase agreement.
- 4. Public Resources Code section 25523.5(a) became effective on January 1, 1994, and directs that the Commission make an affirmative finding of need for a project which is the winner result of the CPUC's August 1993 BRPU.
- 5. SFEC meets the requirements of Public Resources Code section 25523.5.
- As a subsequent legislative enactment, Public Resources Code section 25523.5 takes
  precedence over policies contained in ER 92. The statutory mandate of Public Resources
  Code section 25523.5 overrides any conflicting requirement set forth in ER 92.
- Pursuant to The SFEC project is needed under Public Resources Code section 25523.5, the SFEC project is needed as set forth in section 25523(f) of the Public Resources Code.
- 8. Under CPUC D.85-06-163, The CPUC does not require the utility offering the FSO4 is not required to formally sign the contract for it to become effective.

- The CPUC considers an FSO4 contract binding when it has been signed by the QF and delivered to the subject utility.
- 10. The CPUC requires that a QF satisfy certain Milestone Procedures, including identifying one project site and demonstrating control over that site, in order for an FSO4 contract to be considered final.
- 11. Terms of the FSO4 do not prohibit identification of more than one project site.
- 12. SFEC had originally identified two project sites, but has withdrawn the Innes Avenue site. The Commission's analysis focusses primarily on the only remaining site, that at the Port.
- Identification of the Port site is sufficient to comply with the FSO4 Milestone Procedures for Energy Commission purposes. SFEC's completion of contract milestones is adequate for analysis and finding of compliance within the meaning of ER 92.
- 14. SFEC has reached tentative agreement with representatives of the Port of San Francisco for leasing the Port Site for project use.
- 15. Final approval of action on the lease for the Port site will not occur until after the Energy Commission's licensing process has concluded.
- 16. SFEC has demonstrated sufficient commitment to control of the Port site for Energy Commission purposes in conducting its licensing review.
- A valid FSO4 contract exists between SFEC and PG&E within the meaning of ER 92.
   SFEC has made a sufficient showing of a valid contract to satisfy the requirements of ER 92.
- 18. The Federal Energy Regulatory Commission (FERC) issued an Order on February 23, 1995 invalidating the CPUC's BRPU.
- 19. By its express terms, the FERC Order referred to in Finding 18 above applies only to Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E); this Order specifically disavows any intention to "invalidate preexisting contracts."
- 20. PG&E and SFEC petitioned FERC to clarify the effect of the Order mentioned in Finding 18 above upon the PG&E/SFEC FSO4 contract.
- 21. FERC issued its Order on Requests for Reconsideration on June 2, 1995, but did not directly address the matters raised in Finding 20 above.
- 22. SFEC relied on directions from the CPUC in pursuing the BRPU process.

- 23. SFEC has expended significant sums of money in following regulatory directives pertaining to the BRPU process set forth by the CPUC.
- 243. In ER 92, the CEC determined the Hunters Point repowering project to be the socially least-cost option.
- 254. In ER 92, the CEC identified the Hunters Point IDR for acquisition.
- 265. The CPUC included the Hunter's Point IDR in the BRPU bid process.
- 276. By winning the BRPU bid process, the SFEC project is necessarily more cost-effective than the level established in ER 92, and is therefore economically preferable to the Hunters Point IDR.
- 287. The SFEC project complies with the ER 92 Integrated Assessment of Need and; on this basis, is needed as set forth in section 25523(f) of the Public Resources Code.
- 298. Effectively, the SFOC requires that approximately 50 percent of San Francisco's peak load electricity demand be met by local generation in the San Francisco peninsula.
- 3029. The CEC relied upon the SFOC in determining the need for generation resources in the PG&E service area in ER 92.
- 349. The PG&E SFOC is based upon both economic and reliability considerations.
- 32). PG&E revised its SFOC following 1991 peninsula transmission upgrades.
- 33\frac{3}{2}. Results of ER 92 analyses do not change regardless of whether the original ("old") or revised ("new") SFOC is used.
- 343. ER 92 does not provide for demand conformance analyses under a "generic" need test.
- 354. The purpose of the transmission interconnection agreement contained in ER 92 is to provide Staff with information sufficient to perform a transmission system engineering analysis.
- 365. Staff has obtained sufficient information to perform its transmission system engineering analysis in this proceeding.
- 376. A fully executed No further transmission interconnection agreement, as mentioned in ER 92, is not required prior to the final Decision in the present case.

#### CONDITION OF CERTIFICATION

#### DEMAND-1

Prior to the start of construction (defined as any construction related vegetation clearance, ground disturbance, preparation, or site excavation activities) on the San Francisco Energy Company project, the project owner shall provide either?

- A Final Standard Offer No. 4 contract governing the sale of power to PG&E which has been approved by the CPUC, along with a persuasive showing that the contract is currently enforceable and that all administrative and legal appeals have been resolved; or
- A negotiated (or non-standard) contract governing the sale of power to PG&E, which has been approved by the CPUC and is substantially similar in terms of project configuration and operating profile to the FSO4 contract used for purposes of this Decision, or
- A contract governing the sale of power to PG&E which has become enforceable through the action of a court of competent purisdiction.

Verification Within 30 days following receipt of the submittal, the Staff shall advise the Commission concerning the submittal's sufficiency. The Staff shall indicate whether the submittal's terms and operating profile substantially comply with these analyzed in the licensing proceeding, as well as recommend whether an amendment to the license is necessary.

#### LAND USE

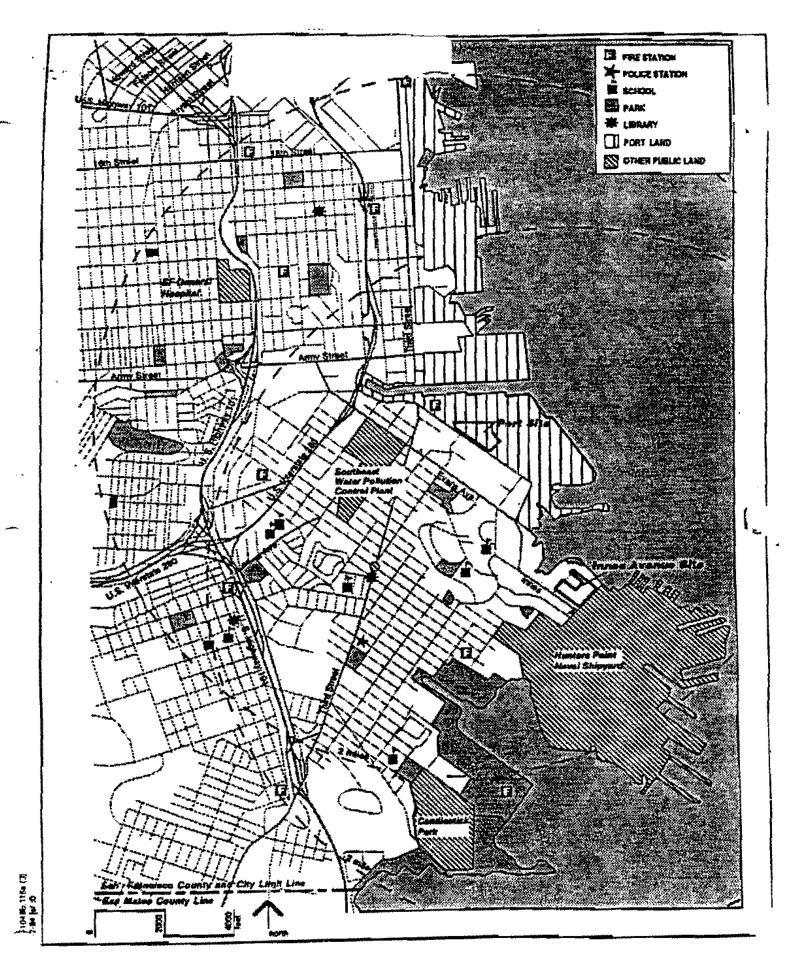
The Land Use analysis evaluates the current land uses in the Bayview Hunters Point community, applicable land use plans, and the compatibility of the proposed project at the Port site on Cargo Way with applicable laws, ordinances, regulations, and standards.

## 1. Setting.

Community. The Bayview-Hunters Point community is bounded by Highway 101 to the west, the San Mateo County line to the south, San Francisco Bay to the east, and Army Street to the north. (See LAND USE FIGURE 1.) This community has, historically, "...been the focus of some of the City's noxious and unhealthy industries...", first as the site of numerous slaughterhouses and subsequently as an area dominated by wrecking yards, junk yards, ship repair, steel manufacturing, materials recycling facilities, and power generation facilities (CCSF 1994a). (FSA, Vol. I, p. 465.)

The closure of the Hunters Point Naval Shipyard in the early 1970's resulted in a loss of nearly 10,000 jobs and a subsequent decline in local commercial activity. The Hunters Point shipyard is currently the focus of a massive military base conversion plan; the Recreation and Parks District is developing a major shoreline park and open space along India Basin; and the San Francisco Municipal Transit District is planning a light rail expansion along Third Street into the heart of the community. (FSA, Vol. I, p. 465.)

Port Site. The proposed site is a portion of a developed parcel created from Bay fill to serve the needs of the Port of San Francisco and includes the Port's consolidated containerized shipping operation at Piers 94/96 as well as a rail yard that serves as the intermodal container transportation facility (ICTF), a major link between foreign shippers and markets throughout the United States. (FSA, Vol. I, p. 474; see LAND USE FIGURE 2.)



LAND USE FIGURE 1 Bayview Hunters Point

(Source: AFC, Figure 5.4-4)

-52-

North of the site large unused grain elevators are situated along Islais Channel. Northeast are large cargo container cranes at Pier 92; east are more container cranes at Piers 94 and 96. Three 350 foot high radio transmitting towers are also east of the site, as well as the Darling International, Inc., animal rendering plant. A sand and gravel operation is near the mouth of Islais Creek at the edge of San Francisco Bay. (AFC, p. 5.4-2.)

South of the site, Cargo Way defines the northern boundary of the India Basin Industrial Park. The Industrial Park has a wide landscaped street with one- and two-story concrete industrial buildings. A large United States Postal Service sorting facility is the major tenant of this Industrial Park. (AFC, p. 5.4-2.)

East of the India Basin Industrial Park is PG&E's Hunters Point powerplant, at Evans Avenue and Jennings Street. This powerplant is a large exposed structure with five stacks ranging in height from 150 to 250 feet. There are nine on-site fuel storage tanks. (AFC, p. 5.4-7.)

The closest residential area is south of Evans Avenue and east of Mendell Street, approximately 2,000 feet south of the site. Given the hillside setting, some of the houses have a view toward the site. Such views already include the PG&E Hunters Point powerplant, the grain elevators, the cargo container cranes, port warehouse buildings, and the radio transmitting towers. (AFC, p. 5.4-7.)

The Potrero Hill residential neighborhood is located approximately 1 mile northwest of the Port site. The Bernal Heights neighborhood is approximately 1.5 miles west of the site, across Highway 101. Views from the Bernal Heights neighborhood are primarily oriented north and south, but a limited number of housing units have views eastward toward the site.

## 2. Land Use Plans.

There are a multitude of state, regional, and local agencies which have plans or policies that delineate planning standards for development at the site.

State and Regional Agencies. As lead agency, the Energy Commission implements the provisions of the CEQA which for present purposes addresses: (1) potential conflicts with adopted environmental plans and community goals; (2) potential growth inducement; (3) population displacement; (4) physical disruption or division of an established community; and (5) potential conflicts with recreational, educational, religious, or scientific uses in an area.

The State Lands Commission has oversight authority over lands held in public trust pursuant to Public Resources Code section 6701. The Burton Act (1968) granted the City and County of San Francisco authority to manage Port lands. Through the Port of San Francisco, this authority includes the granting of leases of property held in public trust.

The Bay Conservation and Development Commission (BCDC), a state agency, and the Metropolitan Transportation Commission (MTC), a regional agency that serves both as a federally-mandated Metropolitan Planning Organization and as a state-mandated Regional Transportation Planning Agency, have developed the Bay Area Seaport Plan (Seaport Plan). The Seaport Plan, administered by BCDC, establishes overall policy direction for growth and development of the Bay Area's six seaports. (AFC, p. 5.4-9.)

Additionally, and separately, BCDC has prepared the Bay Plan to regulate development within the 100-foot mean high tide line. BCDC also prepared the San Francisco Waterfront Special Area Plan to guide development of properties which the Port of San Francisco had declared surplus to Port needs. BCDC participated in the Powerplant Non-Siting Study with the Energy Commission and the California Coastal Commission to identify San Francisco Bay sites which were unsuitable as powerplant sites due to inconsistencies with the Bay Plan.

Master Plan. The City Master Plan consists of mandatory policy elements and area plans for established neighborhoods within the CitySan Francisco, including the Bayview Hunters Point community. The area plans are functionally separate from the Master Plan, but because of similar content requirements can be considered to be "mini-Master Plans" for smaller geographic areas.

In addition to the mandatory elements of the Master Plan, there are optional elements which are pertinent to this review, including the Commerce and Industry Element, the Environmental Protection Element, the Urban Design Element, and the Central Waterfront Element.

South Bayshore Plan. An element of the Master Plan, the South Bayshore Plan, is in the process of being revised. Even though not adopted, the Draft South Bayshore Plan has been sufficiently developed and publicly—reviewed discussed to warrant review in this proceeding.

<u>San Francisco Municipal Planning Code</u>. Whereas the Master Plan provides general land development guidelines, the Municipal Planning Code (Planning Code) provides specific, detailed guidance regulating development within the City.

Port of San Francisco - Draft Waterfront Land Use Plan. As a sub-agency of the City and County of San Francisco, the Port is preparing a Draft Waterfront Land Use Plan which includes identifying Port properties which are not essential to future maritime activities and thus would be available for non-maritime uses.

## Potential Impacts.

The fundamental land use question is whether the proposed energy project complies with all applicable land use plans for the Port site and is otherwise compatible with current and future uses. Intervenors raised an issue of whether the proposed project would nonetheless be inconsistent with the Bayview Hunters Point neighborhood residential uses now and in the future even if does comply with applicable land use plans.<sup>26</sup>

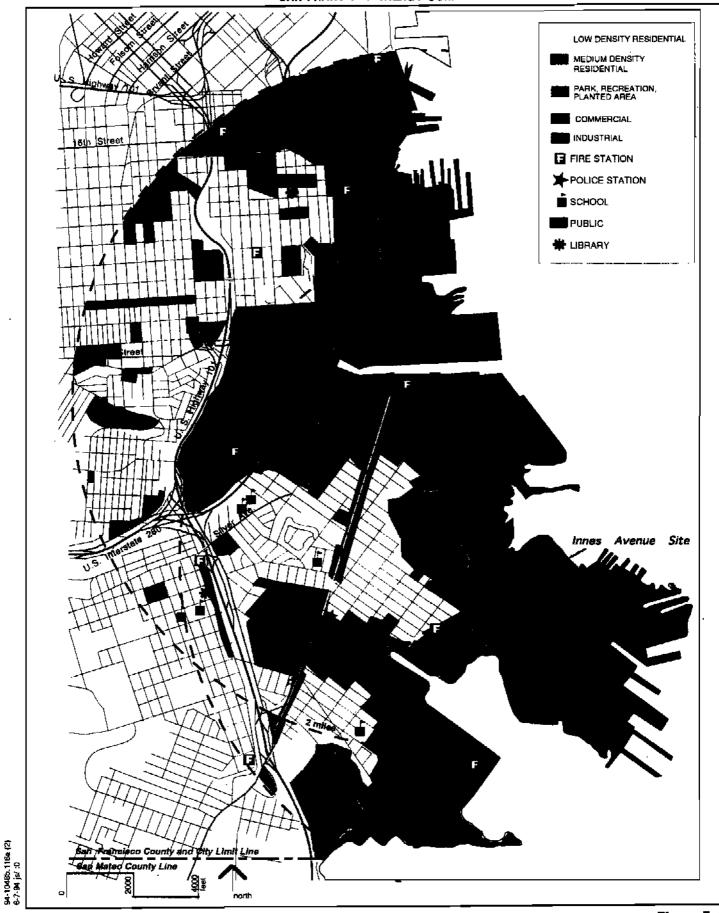
## 4. <u>Summary of the Evidence</u>.

#### a. SFEC

SFEC presented a map showing the current land uses in Bayview Hunters Point, showing low and medium density residential development, commercial and industrial development, and parks. (See AFC Figure 5.4-3, which follows) [Attached]. SFEC also presented an existing zoning map, identifying the M-2 designation for the Port Site itself and a significant portion of the surrounding area within 3/4 mile. (See LAND-1.3; which follows) [Attached]. The M-2 zoning is Heavy Industrial.

Section 210.6 of the Municipal Planning Code defines the zone as "...the least restricted as to use... with fewer requirements as to screening than M-1 districts ...". A steam powerplant is a permitted use in a M-2 zone. (AFC, p. 5.4-22.) Sensitive receptors exist near the site, including two schools, eleven churches, one mental health facility, and three community centers within 3/4 mile of the proposed project. (See AFC Supp. LAND-1.15, which follows) [Attached].

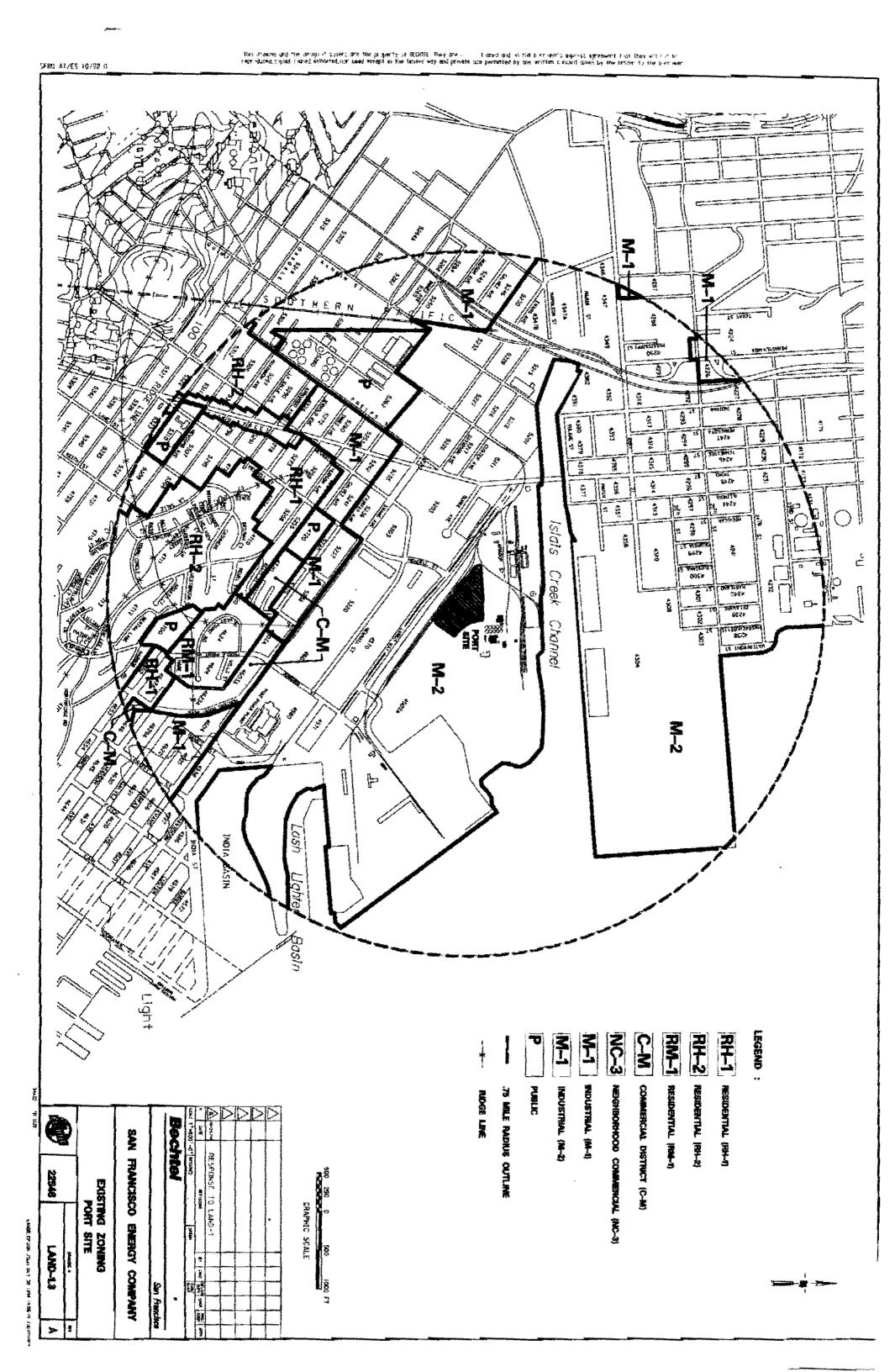
<sup>&</sup>lt;sup>26</sup> This latter matter is also a cross-over issue with the Environmental Justice issue, which is treated in a separate section of this Decision.

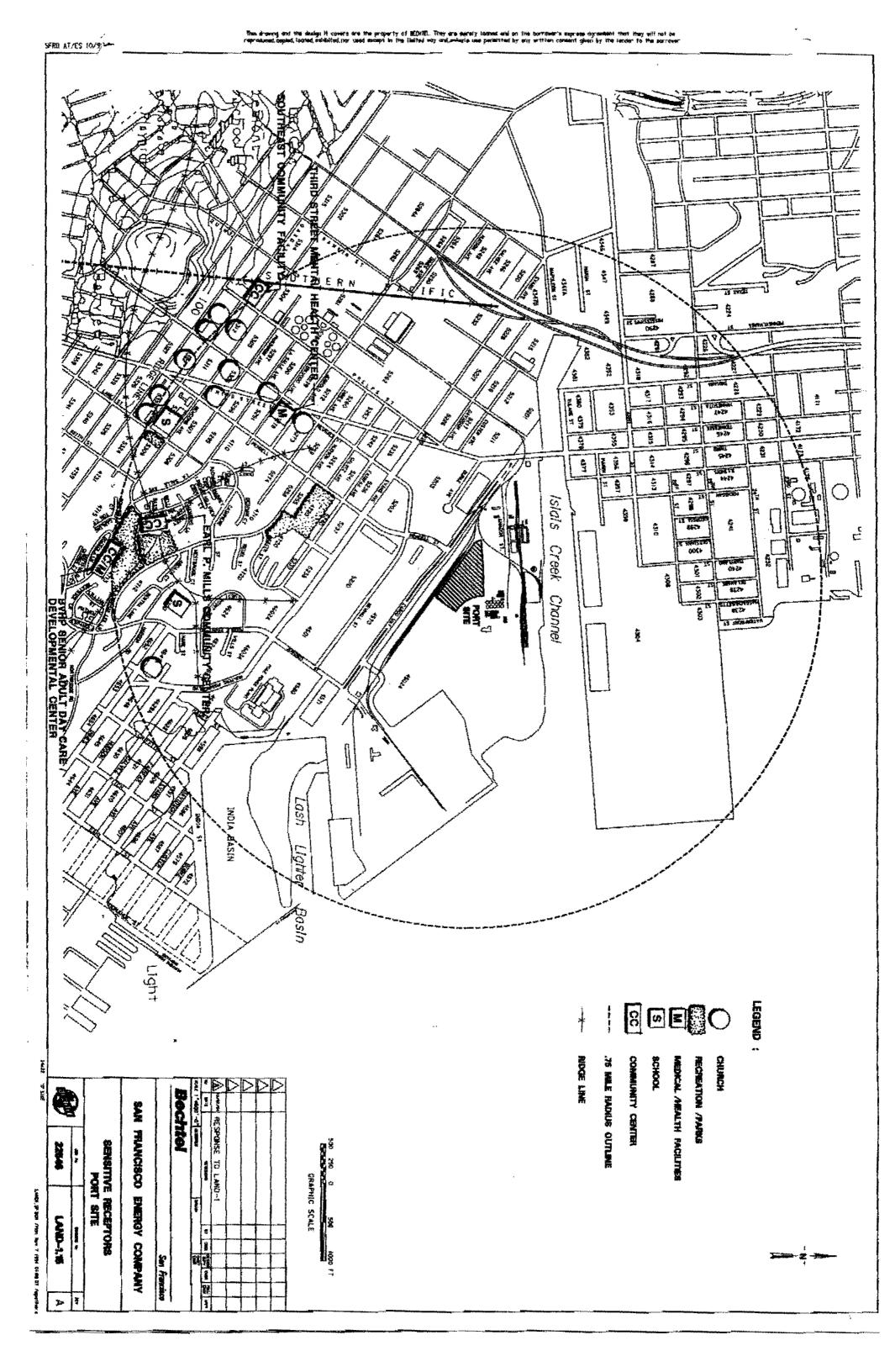


Section 5 Environmental Information

Figure 5.4-3 Land Use

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Reviewing each of the applicable agencies' plans, SFEC's witnesses stated that the project complied with CEQA requirements, was leased by the Port in accordance with public trust lands requirements, was consistent with the BCDC Seaport Plan, the Bay Plan, and the Waterfront Special Area Plan. With respect to local land use plans, SFEC's witnesses testified that the project was consistent with the mandatory and optional elements of the City's Master Plan. In particular, by being a cogeneration project, the proposed project was the type of alternative energy use necessary to comply with the Energy Element of the Draft South Bayshore Plan. Additionally, the proposed project is within an area designated "Industrial" in the Draft South Bayshore Plan, as well as being consistent with the Port's Draft Waterfront Land Use Plan and future Redevelopment Agency plans. (7/14/95 RT 11:6-10.) The Planning Code exempts structures and equipment for industrial plants from the otherwise applicable 40-foot height limit.<sup>27</sup> (AFC, p. 5.4-22.)

The witnesses also identified anticipated future development in the Bayview Hunters Point area, concluding that the powerplant project was consistent with those possible projects and would not create an adverse cumulative land use impact. (7/14/95 RT 12:14-17; AFC, p. 5.4-36.) In addition, all of the underground facilities - gas pipeline, electric transmission, water, and steam pipelines - will conform with applicable plans. (7/14/95 RT 12:1-5.)

#### b. Staff

Staff also compiled a list of the land use agencies and their respective plans which potentially pertain to the proposed project. In LAND USE TABLES 1 AND 2 contained in the FSA, the Staff illustrated its conclusion that the proposed project was consistent with all applicable land use plans. (7/14/95 RT 40:24-41:3; FSA, Vol. 1, pp. 500-502.) In addition to consistency with land use plans, Staff reviewed the compatibility of the proposed project with surrounding land uses, and found that construction of the facility on the site would not be

<sup>&</sup>lt;sup>27</sup> Planning Code, § 260(b).

detrimental to daily functions or development in the Bayview-Hunters Point community. (FSA, Vol. 1, pp. 503, 506.)

In consultation with the City, Staff also identified pending development projects which might affect or be affected by the proposed project. The Staff determined that none of the pending projects would be impacted by the proposed powerplant. (7/14/95 RT 57:17-60:5; FSA, Vol. I, p. 506.) For example, the proposal for Third Street light rail, including pedestrian access and amenities, would not be adversely affected by the project due to the distance from the site to Third Street. (7/14/95 RT 42:3-15; FSA, Vol. I, p. 506; see RT 29:15-19.)

Finally, Staff determined that there would be no adverse cumulative affects from the proposed project since the development pattern around the site has been established as industrial and this nature will not be altered by the proposed powerplant. (7/14/95 RT 58:18-24; FSA, Vol. I, p. 506.)

With respect to the transmission line, water pipelines, steam pipeline, and gas pipeline, Staff determined that by being underground these facilities would not conflict with any land uses. (FSA, Vol. I., pp. 499, 506.) Insofar as these are underground facilities, cumulative impacts would occur, if at all, only if other underground, in-street construction was taking place at the same time.

## c. <u>Intervenors</u>

Intervenors' witnesses contended that the proposed project would exacerbate an historical land use conflict in the Bayview Hunters Point community between residential and industrial uses, even though the site is zoned for the project. According to witness LaBrie, the proposed project would interfere with a desired transition from industrial uses to residential uses in the community. (LaBrie p. 7-10.) In this witness' view, uses not wanted elsewhere are placed in the Bayview Hunters Point area. (7/14/95 RT 68:2-4.)

The witness also asserted that the project would conflict with the Energy Element of the Draft Bayshore Plan (LaBrie p. 9), which states as policy, "fejxplore the possibility of alternative supply options such as district cooling and cogeneration." (7/14/95 RT 102:25-103:1.) On cross-examination, Mr. LaBrie clarified that cogeneration would be an alternative supply option within the meaning of the Draft Bayshore Plan. (7/14/95 RT 104:20-21.)

## 5. Commission Discussion.

The uncontroverted evidence-in the of record-is establishes that the proposed project complies with all applicable land use plans and zoning designations. The Intervenors do not assert that the site is not zoned for the project. Since the proposed facility is a cogeneration plant, it conforms to the Energy Element of the Draft Bayshore Plan. The proposed project is compatible with existing and anticipated uses in the area surrounding the Port. Residential uses are sufficiently removed from the site so that there is no significant conflict with the proposed powerplant. Moreover, the existing zoning permits no residential uses at or near the site. Since the surrounding uses and existing nature of the site are industrial, the project also will not create adverse cumulative impacts. Similarly, The evidence indicates that the underground facilities are consistent with applicable land use plans.

## FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission reaches the following Finding and Conclusions:

- 1. The cogeneration plant at the Port Site will be consistent with all existing and proposed laws, ordinances, regulations, standards, plans and policies regulating land use, identified in APPENDIX; LORS of this Decision.
- 2. The cogeneration plant at the Port site will not have a significant cumulative impact on containerized shipping operations of the Port of San Francisco.
- The cogeneration plant at the Port site will not have a significant adverse land use impact.

- 4. The proposed project will not adversely impact identified pending development projects.
- 5. The proposed project conforms to the Energy Element of the Draft Bayshore Plan.
- 6. The proposed project will not cause adverse cumulative impacts to the established development pattern in the vicinity of the Port site.

<u>Transmission Lines</u>. The proposed natural gas, waste water, electrical, and steam transmission lines:

- 1. Will be consistent with all existing and proposed laws, ordinances, regulations, standards, plans and policies regulating land use identified in APPENDIX: LORS of this Decision;
- 2. Will be compatible with existing and approved land uses in the vicinity;
- 3. Will be compatible with proposed land use plans within the Bayview Hunters Point community; and
- 4. Will not have a significant adverse immediate or cumulative land use impact.

#### CONDITIONS OF CERTIFICATION

None.

#### SOCIOECONOMICS

The technical area of socioeconomics addresses several related issues, including the potential effects of project-generated population changes on local schools, medical and protective services, public utilities, and other public services. In this section, the Commission has reviewed whether construction and operation of the project will result in any adverse impacts to community resources and/or affect the economic viability of the local area.<sup>28</sup>

#### 1. Setting.

The proposed site is located in the City and County of San Francisco. The community surrounding the site is known as Bayview Hunters Point.<sup>29</sup> This area is defined by Army Street to the north, the San Francisco/San Mateo county lines to the south, the James Lick Freeway (U.S. 101) to the west, and San Francisco Bay to the east. (FSA, Vol. I, p. 384.) San Francisco is divided into fifteen distinct planning areas, each with its own specific plan. Bayview Hunters Point is part of the South Bayshore planning area. (*Ibid.*)

The Final Draft South Bayshore Plan (1995) characterizes Bayview Hunters Point as an area that has historically been the location of San Francisco's heavy industrial and polluting uses. While metany of the previous environmental and land use problems have abated due to the implementation of recent environmental, land use, and coastal regulations, (Id., p. 384) Bayview Hunters Point is still home to several recycling centers, auto wrecking yards, an animal rendering plant, a wastewater treatment plant, two PG&E-owned powerplants, and hazardous

<sup>&</sup>lt;sup>28</sup> The CEQA Guidelines provide that "economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect." (Cal. Code Regs., tit. 14, § 15131(a).)

<sup>&</sup>lt;sup>29</sup> For purposes of this analysis, Bayview Hunters Point is considered the study area and the nine-county Bay Area is considered the regional area. (FSA, Vol. I, p. 383.)

waste sites at both the Port of San Francisco and the Hunters Point Naval Shipyard. (H., p. 384

Bayview Hunters Point has experienced economic decline and population displacement due largely to market forces and land use conflicts. The closure of the Hunters Point Naval shipyard in the early 1970's along with demolition of old wartime public housing in the area contributed toward significant out-migration of the local population. However, since 1980, population and housing growth have increased due to new housing constructed through public redevelopment and private investment efforts. It is the goal of the Final Draft South Bayshore Plan to:

...abate the market forces contributing to the decline of the local population and conflicts between different land uses while encouraging those market forces that improve the economic status of local residents and provide them with a more supportive and attractive land use environment that increases their property values. (FSA, Vol. I, p. 384, citing the Final Draft South Bayshore Plan.)

Between 1980 and 1990, the population in Bayview Hunters Point increased almost 30 percent, from 20,600 to 26,700, while the overall population of San Francisco increased by only about 6 percent, from 679,000 to 724,000. (FSA, Vol. I, p. 384.) The population trends for Bayview Hunters Point, San Francisco, the Bay Area, and California are compared in SOCIOECONOMICS TABLE 1 below.

SOCIOECONOMICS TABLE 1

## **Bayview Hunters Point and Regional Population Trends**

	Average Annual Growth Rate					
	1980-90	1990-98				
Bayview Hunters Point	20,611	26,694	28,155	30,465	2.6%	1.7%
San Francisco	678,973	723,959	752,049	755,420	0.6%	0.5%
Bay Arca	5,179,784	6,021,097	6,333,952	6,712,993	1.5%	1.4%
California	23,668,145	29,760,021	31,551,554	33,965,265	2.3%	1.7%

(Source: FSA, Vol. I, p. 385, Socioeconomics Table 1 adapted from Real Estate Economics Final Report, 1994.)

The population growth rate for Bayview Hunters Point can be attributed to the relatively lower area housing costs in the area.<sup>30</sup> (FSA, Vol. I, p. 386 citing Real Estate Economics Final Report 1994.)

During the 1980's, South Bayshore was the only district in San Francisco to experience an increase in the size of its African-American population, which grew from 15,769 in 1980 to 17,395 in 1990. (FSA, Vol. I, p. 385 citing Final Draft South Bayshore Plan 1995.) In 1990, Asian-Americans became the second largest group in Bayview Hunters Point accounting for 6,200 persons or 22 percent of the population. By 1990, whites accounted for 3,000 persons or 11 percent of the population, and other minorities accounted for 1,200 persons or 4 percent. (Ibid.)

Based on the 1990 Census, median rent for Bayview Hunters Point was \$360 compared to \$653 for the City of San Francisco; the median housing value for Bayview Hunters Point was \$205,000, while in the City of San Francisco, it was over \$300,000. (AFC, Section 5.8.1.2) The population within two miles of the site has a higher ratio of home ownership, 46 percent compared to a citywide average of 34 percent. Moreover, several federally subsidized public housing projects and redevelopment-driven projects are located in the Bayview Hunters Point area. (FSA, Vol. I, pp. 386-387; AFC, p. 5.8-4.)

The number of manufacturing jobs in San Francisco declined from about 50,000 jobs in 1980 to about 40,000 jobs in 1990. The loss of manufacturing jobs strongly affected the Bayview Hunters Point community because approximately 61 percent of the businesses in the area were industrial. (FSA, Vol. I, p. 388 citing Hunters Point Shipyard Land Use Plan 1994.) The decline in manufacturing jobs, the relocation of heavy industries, and the closure of the Hunters Point Naval Shipyard have had adverse effects on the economy and employment opportunities in Bayview Hunters Point.

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The median household income estimates are provided for Bayview Hunters Point and the City of San Francisco in SOCIOECONOMICS TABLE 2 below:<sup>31</sup>

SOCIOECONOMICS TABLE 2
Estimates of Household Income

Income Range	Bayview Hunters Point 1993 (%)	San Francisco 1993 (%)
Less than \$15,000	30.1	18.8
\$15,000 - \$25,000	15.9	13.8
\$25,000 - \$50,000	26.5	32.0
\$50,000 - \$100,000	23.0	25.7
\$100,000 - \$150,000	3.9	5.8
More than \$150,000	0.6	3.8
Median	\$27,414	\$36,838

(Source: FSA, Vol. I, p. 386, Socioeconomics Table 2 adapted from Real Estate Economics Pinet Report, 1994.)

In 1990, the overall unemployment rate for the Bayview Hunters Point community was 14.1 percent; the African-American unemployment rate was 17.7 percent. In comparison, citywide unemployment rates were 6.2 percent for all groups, and 13.2 percent for African-Americans. Unemployment rates do not include those who are underemployed and those who work at part-time or occasional jobs.

<sup>&</sup>lt;sup>31</sup> The median household income for Bayview Hunters Point was approximately \$10,000 less than the citywide figure of \$36,838. Demographic information presented in the Final Draft South Bayshore Plan shows that from 1980 to 1990 the percentage of persons living in poverty increased from 25 percent to 30 percent, unemployment grew from 5.5 percent to 10 percent, and the percentage of female-headed households increased from 31 percent to 40 percent. (FSA, Vol. I, p. 385.)

## 2. Potential Impacts.

Project construction and operation have the potential to cause impacts to community services such as police services, fire protection, community medical services, housing availability, schools, utilities, waste disposal, water demand, and wastewater disposal. In addition, the project may affect fiscal resources and the local economy, including property tax and sales tax distributions, stability of property values, and job availability for local community residents.

The uncontested evidence discussed below shows there will not be any adverse impacts to community services. However, while SFEC and Staff presented evidence that development of the project will improve the fiscal health of the community with respect to employment opportunities, tax revenues, and support for community organizations, several of the Intervenors' witnesses disputed this view.

## 3. Summary of Evidence and Community Benefits.

#### a. Project Schedule

Construction of the project will take approximately 18 months.<sup>32</sup> Initially, SFEC expected to begin construction in late 1995 and to complete construction by August 1997. Construction is now expected to commence in early 1996. Accordingly, the schedule will likely be compressed so that construction should be completed by the summer of 1997 in accordance with the initial plan. (FSA, Vol. I, p. 395.)

i. <u>Construction Work Force</u>. SOCIOECONOMICS TABLE 3 below (adapted from FSA Socioeconomics Table 9) shows the manual craft and contractor staff requirements

<sup>&</sup>lt;sup>35</sup> SFEC initially estimated construction time as 20-22 months. However, the schedule may be adjusted to ensure project start-up in the summer of 1997.

for the project. The peak labor force during construction should occur about 9 to 12 months after construction begins when approximately 195 craft, supervisory, support, and construction management personnel will be employed. The workforce will average about 122 employees during the construction period. (FSA, Vol. I, p. 395.) The total payroll cost including salaries, benefits, and worker's compensation during construction is estimated at \$16.5 million. (AFC, p. 5.8-24.)

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## **SOCIOECONOMICS TABLE 3**

# Manual Craft and Contractor Staff Requirements

	199	1995 1996												1997								
	Nov	Dec	Jan	Feb	Мат	Apr	May	Jun	Jul	Aug	Sep	<b>ા</b> લ	Nov	Dec	Jan -	Feb	Mar	Apr	May	Лап	Jui	Aug
Bollermakers							11	16	23	23	23	23	20	2:0	12	5						
Сагренияся	4	11	18	18	20	20	20	18	13	13	8	4	4	4	4	4	4	4	4	2	2	
Cemere Masons			4	6	6	ð	6	4	3	3	.1											
Electricians	2	5	6	б	Ģ	16	19	19	24	36	44	44	44	44	36	36	30	24	12	-8	6	
Tronwarkers		4	8	8	12	12	18	18	18	18	18	12	8	8	B	ó	2			L		
Läxvers	ń	ń	12	12	12	12	10	10	8	. 9	6	6_	ŏ	5	6	6	4	4	4	4	2	Ĺ
Milwrights									4	4	8	12	16	16	16	12	8	4	2			
Operating Eng.	. 5	5	2	2	4	4.	4	4	4	4	4	4	4	4	4	4	4	2	2	1	1	
Pipolitiers		2	2	ő	6	12	12	18	30	36	43	48	48	48	48	36	18	12.	6	2	2	
Teamsters	2	2	2	2	2	2	4	4	4	4	4_	4	4	4	2	2	2	2	2			
Manual Craft	1.9	35	44	60	71	84	144	111	136	1.49	164	157	154	154	136	111	72		32	17	13	Ü
Contractor Staff	8	10	16	21	21	23	23	26	26	31	31	31	34	34	34	31	26	18	12	8	4	
Total Site Staffing	2.7	45	70	<u>5</u> 1	92	107	127	137	162	180	195	185	188	188	170	142	98	70	44	25	17	0

(Source: FSA, Vol. I, p. 396, SOCIOECONOMICS TABLE 9, adapted from AFC, Table 5.8-10.)

Qualified crafts workers will be referred through local San Francisco unions and neighboring County Building and Construction Trades Unions. The San Francisco County Building and Construction Trades Council (Council) estimates that approximately 12,100 journeymen and apprentices are members of locals in San Francisco, Contra Costa, and Solano Counties. Construction workers tend to be mobile and since the Bay Area is within commute range of San Francisco, there will not be a shortage of construction workers or an in-migration of workers from outside the Bay Area. (FSA, Vol. I, p. 395; AFC, p. 5.8-9.)

In response to community concerns, SFEC developed a plan to maximize employment opportunities for Bayview Hunters Point residents. Working with the Young Community Developers, Inc. (YCD) and Aboriginal Blackman Unlimited (ABU), two community based organizations in Bayview Hunters Point, SFEC established hiring goals to reserve 50 percent of construction jobs for community residents and to reserve 50 percent of apprentice positions for community residents. Preferential hiring will be given to union members with a Bayview Hunters Point zip code; unskilled workers from the community will be brought into apprenticeship programs subject to the standards approved by the Division of Apprenticeship Standards. California Department of Industrial Relations. The YCD and ABU will be responsible for recruiting community residents for these positions. (FSA, Vol. I, pp. 397-398; 7/14/95 RT 136, 148, 154-155.)

On May 24, 1995, SFEC, the Council, and its affiliated unions executed a Project Stabilization Agreement which requires the project owner through its Engineering, Procurement, and Construction (EPC) Contractor to hire workers through union referrals.<sup>33</sup> (See APPENDIX: Labor Agreement.)

The Council and its affiliated unions also signed an Agreement for Construction Employment Goals with the YCD and the ABU, which incorporates the hiring goals established

<sup>&</sup>lt;sup>33</sup> Article 10 of the Project Stabilization Agreement provides that contractors performing construction work on the project shall abide by the registration facilities and referral systems established or authorized by the local unions who signed the agreement. (7/14/95 RT 156-157.)

by SFEC, including eligibility for indenture in the applicable local union for those residents who are not already union members.<sup>34</sup> (7/14/95 RT 159; APPENDIX: Labor Agreement.)

ii. Operational Workforce. During operation, the project will employ about 20-25 workers. The annual payroll including benefits will be about \$1.9 million. SFEC proposed a goal of hiring 50 percent of its operational employees from the Bayview Hunters Point community. (FSA, Vol. I, p. 398; AFC, p. 5.8-24; SFEC Data Response (a) to CEC Data Request SOCIO-10, December 23, 1994.)

#### b. Housing

Impacts to housing availability may occur if the construction workforce exceeds regional availability and causes an increase in the demand for housing. Both SFEC and Staff believe that the availability of the construction labor force and craft trades workers in the Bay Area will not require an in-migration of construction workers from other areas to work on this project. Moreover, any workers who are drawn to the area can be absorbed into the large Bay Area rental housing supply. (AFC, p. 5.8-24.) Therefore, no impact to housing availability should occur. (FSA, Vol. I, pp. 398-399.)

The goals set for minorities and women were derived from the Office of Federal Contract Compliance Guidelines, which are used by the San Francisco Redevelopment Agency. (7/14/95 RT 149-153.)

Experience, or those with no experience, will be eligible for apprenticeship subject to the standards of the Division of Apprenticeship Standards. (Agreement for Construction Employment Goals, § 2.0, APPENDIX: Labor Agreement.) The employment goals for the project are:

<sup>•</sup> Minority - 25.6%

<sup>•</sup> Women - 6.9%

<sup>•</sup> Community Residents - 50%

<sup>•</sup> Apprentice positions filled by Community residents - 50%

<sup>&</sup>lt;sup>25</sup> SFEC expects the workforce to be a mix of local residents and experienced staff from affiliated cogeneration facilities. (AFC, p. 5.8-24.)

## c. Community Services

- i. <u>Police Services</u>. The San Francisco Police Department has sufficient staffing and resources to respond to potential emergencies at the project site. Moreover, SFEC will employ security personnel on-site 24 hours a day, seven days a week. Therefore, the project will not cause adverse impacts to the Police Department and will not affect the Department's ability to serve the wider community. (FSA, Vol. I, p. 399.)
- ii. <u>Fire Protection</u>. The San Francisco Fire Department has sufficient staffing and resources to respond to project emergencies. Accordingly, the project will not result in adverse effects to the Fire Department and will have no impact on the Fire Department's ability to serve the wider community. (FSA, Vol. I, p. 399.) See the section on INDUSTRIAL SAFETY AND FIRE PROTECTION in this Decision regarding SFEC's proposed fire prevention program.
- iii. <u>Community Medical Services</u>. The Fire Department provides the first response for medical emergencies. In critical life-threatening situations, patients are transported from the Bayview Hunters Point area to San Francisco General Hospital. (AFC, p. 5.8-19.) San Francisco General Hospitala Level is 1 Trauma Center, which handles the highest priority health care emergencies, and serves the entire population within the City and County of San Francisco 24-hours a day, 7 days a week. (FSA, Vol. I, p. 399.) Therefore, The project will not cause adverse impacts to emergency medical services within the Bayview Hunters Point area or the wider San Francisco community. SFEC's proposed health and safety program is discussed in the Industrial Safety and Fire Protection section of this Decision.

<sup>&</sup>lt;sup>36</sup> SFEC employees and contractor employees will be covered by health insurance; if members of the public need emergency services as a result of project construction or operation activities, the project owner or its insurance contractor will be financially responsible for the costs of such services. (SFEC, Data Response (b) to SOCIO-6 CEC Data Request, December 23, 1994.)

iv. <u>Schools</u>. Impacts to local school capacities may occur if the families of project employees move to the area, causing schools at capacity to incur additional costs to accommodate new students. Since the evidence indicates that in-migration of workers is not expected due to the availability of the local workforce in the Bay Area, the project will not cause any discernable impact to local schools.<sup>37</sup> (AFC, pp. 5.8-13, 5.8-28.)

Under state law, developer impact fees may be assessed by school districts to assist in the needed rehabilitation of San Francisco schools. SFEC will pay the San Francisco Unified School District a one-time school impact fee of \$17,500. (AFC, p. 5.8-13.) Impact fees are deposited into a fund designated for deferred maintenance; there is no way to determine what portion of the funds will eventually go to Bayview Hunters Point schools. (FSA, Vol. I, p. 400.)

v. <u>Utilities</u>. The project will require 1.9 million cubic feet per hour of natural gas from PG&E, which represents 1.3 percent of the amount of gas currently being piped into the San Francisco area. The evidence indicates that PG&E has excess pipeline capacity and can absorb the additional demand with no added infrastructure. Therefore, the proposed project will have no impact on PG&E's ability to serve other natural gas customers. (AFC, p. 5.8-20, FSA, Vol. I, p. 400.) Under normal operating conditions, the project will provide its own electricity of approximately 5.8 MW per day. PG&E can provide the required electricity to the project under its standby tariff. (FSA, Vol. I, p. 400.)

## d. Fiscal Resources and Local Economy

i. <u>Property Taxes</u>. Property taxes derived from SFEC's use of Port lands are based on a possessory interest on the leasehold. The property tax will go to the City of San

<sup>&</sup>lt;sup>37</sup> School enrollment in the San Francisco Unified School District is currently stable, with a slight increase in elementary school students and a slight decrease in high school enrollments. The overall decline in the city's population has resulted in some under-utilization of existing schools. (AFC, p. 5.8-13.)

Francisco,<sup>38</sup> and rent based on the lease agreement will go to the Port.<sup>39</sup> The new redevelopment plan for the South Bayshore survey area will capture the incremental increase in property taxes generated by the project.<sup>40</sup> (FSA, Vol. I, p. 401.) The estimated property taxes are shown in SOCIOECONOMICS TABLE 4 (adapted from FSA, Socioeconomics Table 10) below:

#### SOCIOECONOMICS TABLE 4

## **Property Tax Generation of SFEC Facility**

Taxable Value Basis	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01
land/buildings	\$5,000,000	\$10,000,000	\$50,000,000	\$51,000,000	\$52,020,000	\$53,060,400
equipment/personal property	•	\$25,000,000	\$125,000,000	\$125,000,000	\$125,000,000	\$125,000,000
Total	\$5,000,000	\$35,000.000	\$175,000,000	\$176,000,000	\$177,202,000	\$178,060,400
Total Property Tax  @ 1.15% per \$100	\$57,500	\$402,500	\$2,012,500	\$2,024,000	\$2,035,700	\$2,047,700

(Source: FSA, Vol. 1, p. 402, Socioeconomics Table 10 adapted from AFC, Table 5.8-11.)

ii. Sales Taxes. Most of the sales tax revenue goes to the state. In San Mateo and San Francisco Counties, the cities receive approximately one percent of the sales tax plus

Unlike other jurisdictions in California, the City and County of San Francisco is a single jurisdiction, responsible for all governmental functions with the exception of education. Thus, there are no differential tax rates or service districts within its boundaries, and the allocation to various funds is constant anywhere in the city. (AFC, p. 5.8-26.) Of the total property tax yield of approximately \$2 million annually anticipated from the project starting in 1997-98, slightly more than \$1 million will go to the General Fund and about \$600,000 will go to education. (Ibid.)

No Revenues generated by the Port are used only for Port purposes. Under the 1968 Burton Act, the City of San Francisco created the Port Commission with complete authority to use, operate, manage, and regulate the Port. Although the Port is structured like other City departments, it relies solely on revenues from property under its stewardship to fund maritime, public access and open space improvements, maintain property, and meet its administrative expenses. (FSA, Vol. I, p. 401, citing Draft Waterfront Land Use Plan.)

<sup>&</sup>lt;sup>40</sup> The San Francisco Redevelopment Agency expects the redevelopment plan for the South Bayshore area to be adopted by the Spring of 1997 in order to capture the tax increment revenue from the project. (FSA, Vol. I, p. 401.)

another one percent to support transportation improvements. SFEC estimates approximately \$1 to \$1.5 million will be spent locally on items subject to sales tax, such as materials and contract services, 41 yielding \$80,000 to \$120,000 in annual sales tax revenue based on the 8.25 or 8.50 percent rates used in most Bay Area counties. Approximately \$15,000 in sales tax will be returned to the City's General Fund, and an equivalent amount will be dedicated to transportation projects. (FSA, Vol. I, p. 402.)

iii. Non-governmental Financial Benefits. Based on SFEC's regional input-output model, the estimated economic impacts for every direct dollar spent are shown in SOCIOECONOMICS TABLE 5 (adapted from FSA, Socioeconomics Table 11) below:<sup>42</sup>

Staff asserted that SFEC's economic benefits analysis represents non-discounted values which overstate the actual benefits of the project over time.<sup>43</sup> Nevertheless, Staff's calculations confirmed that the multiplier effect of project expenditures will result in economic benefits to the state and the local community. See SOCIOECONOMICS TABLE 6 (adapted from FSA Socioeconomics Table 14) below:

<sup>&</sup>lt;sup>41</sup> Staff proposed a Condition of Certification that would require SFEC to procure materials and supplies from local vendors, if feasible, to enhance the project's economic benefits to the community. The Commission believes this proposal is reasonable and it is incorporated in Condition SOCIO-1.

<sup>&</sup>lt;sup>42</sup> In California, total economic output impact of all project spending ranges from \$2.1 to \$2.4 billion and the average is \$2.25 billion; total impact on household earnings of all project spending ranges from \$529 to \$594 million and the average is \$561 million; total number of new jobs created by all project spending ranges from 2,190 to 2,740 and the average is 2,465 jobs. (FSA, Vol. I, p. 404.)

For San Francisco/San Mateo Counties, the total economic output impact of all project spending ranges from \$1.1 to \$1.8 billion and the average is \$1.45 billion; total impact on household earnings of all project spending ranges from \$336 to \$481 million and the average is \$408 million; total number of new jobs created by all project spending ranges from 1,129 to 2,004 and the average is 1,566 jobs. (FSA, Vol. I, p. 405.)

To more accurately predict the fiscal impacts of a single project, Staff applied a discount value of 9.75 percent to SFEC's operating costs over the 30-year project period to determine net present value in 1997 dollars. Staff also discounted SFEC's figures using the 30-year treasury yield of 7.45 percent as an alternative approach to derive net present value. Finally, Staff suggested that a social discount rate of 2 to 3 percent be used to determine net present value by discounting collective or public investments. (FSA, Vol. 1, pp. 405-408.)

# SOCIOECONOMICS TABLE 5

# San Francisco/San Mateo Counties and California Expenditures (SFEC's Regional Input-Output Model)

Cost Item	Amount 1997 \$	San Francisco/San Mateo Counties	California
Turnkey Engineering Procurement and Construction Contract	\$130,000,000	Low \$16,000,000 High \$32,500,000	Low \$42,000,000 High 49,000,000
Wastewater Reclamation Facility	\$5,400,000	Low \$540,000 High \$1,350,000	Low \$2,160,000 High \$2,160,000
Gas, Water, Electrical Interconnection	\$3,600,000	Low \$720,000 High \$1,800,000	Low \$3,600,000 High \$3,600,000
Startup and Connecting Costs/Development Costs and Construction	\$2,500,000	Low \$1,000,000 High \$1,250,000	Low \$2,000,000 High \$2,000,000
Management	<b>\$9,25</b> 0,000	Low \$2,100,000 High \$2,700,000	Low \$3,000,000 High \$3,000,000
Spare Parts and Working Capital	\$10,000,000	Low \$1,000,000 High \$3,000,000	Low \$4,000,000 High \$4,000,000
Financing Costs and Contingency	\$10,000,000	Low \$1,000,000 High \$5,000,000	Low \$7,500,000 High \$7,500,000
Emissions Offsets	\$3,500,000	Low \$350,000 High \$1,050,000	Low \$3,500,000 High \$3,500,000
Interest During Construction	\$12,000,000	Low \$0 High \$12,000,000	Low \$0 High \$12,000,000
Total Capital Cost	\$186,250,000	Low \$27,085,000 High \$65,650,000	Low \$73,385,000 High \$92,385,000

(Source: FSA, Vol. 1, p. 404, Socioeconomics Table 11 adapted from SFEC Data Response to Data Request SOCIO-8, January 20, 1995,)

## SOCIOECONOMICS TABLE 6

Total Project Economic Impacts for California - SFEC Non-Discounted Values and Net Present Values

Total Project Economic Impacts for California	SFEC Non- Discounted Values (2026)	Net Present Value 6.8% nominal social discount rate (1997)	Net Present Value 10.2 % (50% of project at 6.8% and 50% of project at 13.5%)	Net Present Value 13.5% nominal discount rate for QF investments (ER 92) (1997)
output	\$2.25 billion	\$711 million	\$532 million	\$351 million
household earnings	\$561 million	\$170 million	\$127 million	\$83 million
jobs	2,465	525	484	441

(Source: PSA, Vol. I, p. 408, Socioeconomics Table 14.)

iv. Local Property Values. Both SFEC and Staff concluded that the project will not adversely impact property values in the Port site vicinity. The surrounding land uses are industrial and the zoning is M-2 (Heavy Industrial). The nearest residential property with a view of the proposed project is at least one-half mile from the site and is visually impacted by the PG&E Hunters Point powerplants and the grain elevators located between the Port and Potrero Hill. (FSA, Vol. I, p. 411; AFC, p. 5.8-25.) There are no housing units in the area that have a pristine or rural view that will be replaced by an urban, industrial view as a result of this project; the housing units in Bayview Hunters Point currently have an urban, industrial view. (Ibid.) Moreover, future buildout of the Port as a priority use area is expected to increase the presence of industrial uses in the area. (Staff's Written Supplemental Socioeconomics Testimony, July 6, 1995.)

<sup>&</sup>lt;sup>44</sup> The Seaport Planning Advisory Committee and the Bay Conservation and Development Commission (BCDC) have indicated in the Seaport Plan that future buildout of the Port as a priority use area will be required to accommodate waterborne cargo demand. Priority use areas are important components of the regional economy and are reserved for maritime or non-maritime uses that will not impede development and operation of the Port. (Staff's Written Supplemental Testimony on Socioeconomics, July 6, 1995, p. 1.)

Staff asserted that although members of the community may feel the project will affect property values because of its industrial attributes, the evidence does not indicate that the project will change the nature of the community. (Ibid.) Staff reviewed the literature on market proximity analysis impact near industrial facilities to determine whether the project will affect the market value of residential properties in the community. (Ibid.) Based on that review, Staff concluded that the actual loss of property value and potential effects can only be tested through data from home sales. (Ibid.)

v. Community Benefits Program. In SFEC's Draft Lease with the Port of San Francisco (Port), SFEC proposed a community benefits program to provide an average of approximately \$250,000 \$13,000,000 over the life of the project to the Bayview Hunters Point community each year for the years covering project years 1-17. (FSA, Vol. I, p. 397.) This program is discussed in the ENVIRONMENTAL JUSTICE section of this Decision. These funds are to be disbursed using a community-based decisionmaking process. Prior to the evidentiary hearings, SFEC engaged in public discussions regarding the creation of this community benefits package and a community based organization to guide disbursement of funds. The Port will eversee the implementation of the community benefits program.

The public discussions culminated on August 24, 1995, when SFEC entered into a Memorandum of Understanding (MOU) with the Bayview Hunters Point Clean Environment

<sup>&</sup>lt;sup>45</sup> Several members of the community testified in favor of the project, indicating that the project's economic benefits to the community outweigh subjective fears about environmental impacts or diminished property values. (See 7/14/95 RT 254 et seq., testimony of Keith Lennon, Fernando Espana, Kevin Williams, George Davis, Ph.D., Nathaniel Mason, and Ethel Garlington.)

Values Near High-Voltage Transmission Lines. According to this report, the preferred method for market proximity impact analysis is the Multiple Regression Analysis (MRA) in the Hedonic Pricing Format which reflects what buyers and sellers actually do as opposed to what potential buyers say they might do under specified hypothetical circumstances. Staff also reviewed the Analysis of Property Value Impacts of the Crockett Cogeneration Project [92-AFC-1] submitted by the Applicant in that case, which indicated that many factors are involved in purchasing a house. Location near industrial facilities is not always the deciding factor. (Staff's Supp. Socioeconomics Testimony, dated July 6, 1995.)

Coalition. The fund, to the MOLL SFEC will make annual contributions to a Community Enhancement Fund (Fund) to support programs, projects, and activities that focus on assisting the Bayview Humers Point community residents, stimulating economic development in the community, and helping improve the quality of life for all community residents. Over the period of construction and the operational life of the project, SPEC will make contributions to the Fund, totalling \$13 million. The funds are to be disbursed using a community-based decisionmaking process embodied in the Community Enhancement Fund Advisory Board. \*\*

The Commission believes that SFEC's community benefits package provides rangible benefits directly to the community as a result of the development of the project. Such community benefits packages have been adopted in previous Commission Decisions including the Crockett Cogeneration Project (92-AFC-1) and the Sacramento Ethanol and Power Cogeneration Project (92-AFC-2).

In addition, as discussed in the AIR QUALITY section of this Decision, SFEC has agreed to the resolding of two playgrounds in the Bayview Humers Point community in response to the PM<sub>10</sub> concern. This resolding reduces direct PM<sub>10</sub> emissions from a source within the immediate community. The resolding of the playgrounds should provide as much as 50 tons/year of PM<sub>10</sub> reductions by installing and maintaining new grass cover (SOCIO-5 & SOCIO-5).

## 4. Intervenors.

The Intervenors argued that the project will contribute to the industrial presence in the area and exacerbate the cumulative effect of industrial uses in the area that conflict with residential land uses. (Intervenors' Brief, pp. 67-68.) The Intervenors asserted that community

The Bayview Floriers Point Clean Favoroneent Costition is an open membership organization concerned about the general welfare of the Bayview Hunters Point community.

The MOU also eremes a Community Health and Safety Advisory Committee (CHSAC) to review and advise SFEC concerning the project's health and safety programs.

concerns are strongly influenced by quality of life issues, which are adversely affected by increased industrialization. The community already believes it is disproportionately burdened by sources of environmental pollution.<sup>49</sup> (See Written Testimony of Carl Anthony, July 7, 1995.) Intervenors also argued that Staff's analysis regarding impacts to property values was inadequate, especially because the Bayview Hunters Point area has the highest rate of home ownership in San Francisco. (*Id.*, p. 12; Intervenors Reply Brief, p. 16.)

Intervenors also challenged the regional multiplier concept used by SFEC and Staff to estimate direct and indirect economic benefits of the project. According to Intervenors, that approach does not account for the project's external social costs, such as air pollution, noise, and increased fear of adverse health effects. (Testimony of Carl Anthony, pp. 6-8.)

Further, Intervenors argued that SFEC's agreement with the labor unions to hire community residents for the short-term construction period may be ineffective because there is no mechanism to ensure that community referrals will be allowed to join the unions. (Intervenors Reply Brief, pp. 15-16.) Intervenor witnesses, Willie Ratcliff, Vanessa Young, and Harry Sanders testified that in their experience the unions have traditionally excluded minority applicants and that SFEC's agreement with the unions does not provide long-term job opportunities that are needed in the community. (7/14/95 RT 182 et seq.)

## Commission Discussion.

i. <u>Uncontested evidence</u>. The evidence unequivocally demonstrates that the project will not affect the capabilities of local schools, police and fire departments, medical emergency services, housing availability, or public utilities to serve the community because in-migration of workers and their families to the community will be minimal or non-existent. The

<sup>&</sup>lt;sup>49</sup> Intervenors' expert witness, Carl Anthony, asserted that "[c]ommunities of color and inner cities bear a disproportionate burden from society's over-reliance on fossil fuels and suffer from direct environmental degradation. They must often bear the external social costs of the energy production and consumption cycle." (Written Testimony of Carl Anthony, July 7, 1995, p. 5.)

community infrastructure has sufficient capacity to serve any potential demand resulting from project activities. Moreover, the project will provide direct economic benefits to the community resulting from job opportunities, school impact fees, property taxes, and sales tax revenues.

ii. Contested Evidence. Although their methodologies were different, both SFEC and Staff have shown the project will provide indirect economic benefits from project expenditures over the life of the project. Intervenors disputed this conclusion, arguing that the "regional multiplier" analyses ignore the particular socioeconomic conditions of the Bayview Hunters Point community, particularly because a high percentage of income received by local residents is spent outside the area due to limited availability of retail and commercial businesses. While tThe Commission recognizes this argument may reflect the perception of the Intervenors, and is arguably supported by the Draft South Bayshore Plan. (See Intervenors' comments, 11/16/95, p. 66.) However, the point of the multiplier analysis is not to guarantee that momes will be expended in a particular neighborhood, but rather to demonstrate the effect of the project expenditures on a broader economy, it is anecdotal in nature and not based upon probative evidence.

Moreover, neither CEQA nor the Warren-Alquist Act requires a developer to provide indirect economic benefits to the surrounding community. If a new project stimulates economic growth, as in this case, it is viewed as a positive effect that is otherwise corollary to the required socioeconomic analysis under CEQA. In the present instance, however, Condition SCICIO — it is intended to directly aid the community by requiring that the project owner give first priority to acquiring materials and supplies from within the immediate area.

Regarding the Intervenors' concern that there is no guarantee the unions will allow residents to become members and work at the project, the Commission does not have jurisdiction to enforce the voluntary labor agreements between SFEC and the signatory unions. Condition SOCIO-1 incorporates SFEC's plan to recruit employees from the Bayview Hunters Point community; the YCD and ABU have responsibility to notify, recruit, and screen potential job

applicants. The Commission believes SFEC's efforts to develop and implement its hiring program will provide additional economic benefits to the community.

Regarding potential impacts on property values, the Final Draft South Bayshore Plan provides that development should:

Stimulate business, employment, and housing growth within the existing general land use pattern by resolving conflicts between adjacent industrial and residential areas; and preserve and enhance existing residential neighborhoods.

Because zoning of surrounding land uses at the Port site is Heavy Industrial (M-2), the project will not contribute to land use conflicts. Moreover, if the project were not built, the Port would likely develop the site for other industrial uses. Chapter 4 of the Draft Waterfront Land Use Plan, which establishes development standards for cogeneration projects sited within the Cargo Way Mixed Use Opportunity Area, requires the developer to maximize economic benefit to the Port of San Francisco.

Furthermore, evidence offered by expert witnesses on behalf of Staff and SFEC directly refute the contention that additional development in an existing industrial area will necessarily lower residential property values. Based on While the studies reviewed by SFEC and Staff, the Commission finds there is no accurate method to measure whether do not pertain to the Bayview Hunters Point neighborhood in particular, they do provide a credible basis to conclude that the value of residential properties in the Bayview Hunters Point community will not be adversely affected by development of the project. (7/18/95 RT 33-37.) As discussed in the ENVIRONMENTAL JUSTICE section of this Decision, the weight of the evidence in this case demonstrates there will be no significant environmental impacts despite the subjective fears of the community. Because the project is situated within a well-established industrial area (and one proposed for future industrial use) it is not likely that the project will cause diminished property values.

#### FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following Findings and Conclusions:

- 1. The Final Draft South Bayshore Plan (1995) characterizes Bayview Hunters Point as an area that has historically been the location of San Francisco's heavy industrial and polluting uses.
- 2. Since the 1970's, the decline in manufacturing jobs, the relocation of heavy industries, and the closure of the Hunters Point Naval Shipyard have had adverse effects on the economy and employment opportunities in Bayview Hunters Point.
- 3. Demographic information in the Final Draft South Bayshore Plan shows that from 1980 to 1990, the percentage of persons living in poverty (under \$15,000) went up to 30 percent and the unemployment rate increased to 10 percent in the Bayshore Hunters Point Community.
- 4. The site is located in an area zoned M-2 for heavy industrial uses, is surrounded by heavy industrial uses, and is subject to the Draft Waterfront Land Use Plan for the Port of San Francisco.
- 5. Construction of the project is expected to last approximately 18 months from early 1996 to the summer of 1997.
- 6. The peak labor force during construction should occur about 9 to 12 months after construction begins and will require approximately 195 craft, supervisory, support and management personnel.
- 7. During operation, the project will employ about 20-25 employees.
- 8. To maximize employment opportunities for Bayview Hunters Point residents, SFEC established hiring goals to reserve 50 percent of construction (and operation) jobs for community residents and to reserve 50 percent of apprentice positions for community residents.
- 9. SFEC's hiring goals for construction workers are incorporated in the Agreement for Construction Employment Goals which was executed by the San Francisco Building and Construction Trades Council, its affiliated unions, and the Young Community Developers, Inc. and the Aboriginal Blackman Unlimited.

- 10. Construction of the project will not cause direct or cummulative impacts to housing availability because there is no shortage of sufficient construction labor in the Bay Area within commuting distance to the project.
- 11. Construction and operation of the project will not cause any direct or cumulative impacts to police services, fire protection services, school enrollment, or public utilities.
- 12. The project will provide economic benefits through lease payments to the Port of San Francisco, school impact fees, property taxes, sales taxes, job opportunities, and indirect financial benefits.
- 13. The project owner will establish a community benefits program that includes annual average payments of approximately \$250,000 providing \$13,000,000 to the Bayview Hunters Point community over the life of the project.
- 14. The project owner will procure materials and supplies from local vendors, to the extent possible.
- 15. There is no substantial evidence that the project will not adversely affect residential property values in the Bayview Hunters Point area but members of the community have subjective concerns that can only be tested through data from actual home sales.
- 16. Implementation of the Conditions of Certification set forth below ensures that the project will not adversely impact socioeconomics in the Bayview Hunters Point area.

### CONDITIONS OF CERTIFICATION

- SOCIO-1 The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within Bayview Hunters Point first, San Francisco County second, and San Mateo County third, unless;
  - there is adequate justification to hire someone for a specific position or procure materials and/or supplies, from outside Bayview Hunters Point or San Francisco County or San Mateo County for reasons such as price, quality, and suitability to a specific design criteria;
  - to do so will violate federal and/or state statutes;
  - the materials and/or supplies are not available; or
  - qualified employees for specific jobs or positions are not available.

<u>Verification</u>: At least 60 days prior to the start of construction, the project owner shall submit to the CPM and the Bayview Hunters Point Clean Environment Coalition (Coalition) copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the CPM in each Monthly Compliance Report of the reasons for any planned procurement of materials or hiring outside the local area that will occur during the next two months. The CPM and the Coalition shall review and comment on the submittal as needed.

The project owner shall make a good faith effort to maximize the employment percent of its construction workforce made up of Bayview Hunters Point residents first, San Francisco County residents second, and San Mateo County residents third, for the construction of the project to the extent consistent with state and federal law.

Protocol: For union positions, the project owner shall make a good faith effort in negotiating a collective bargaining agreement with the San Francisco County Building and Construction Trades Council to maximize the employment of Bayview Hunters Point residents first, San Francisco County residents second, and San Mateo County residents third, for the construction of the project. Whenever practical, on-the-job training opportunities will be provided for entry level positions.

For non-union positions, the program shall include Bayview Hunters Point outreach and recruitment to include advertising positions in local area newspapers and sending copies of job postings to relevant Bayview Hunters Point agencies and schools. The project owner shall provide interested Bayview Hunters Point residents preferences for open positions in such cases where two or more final candidates are equally qualified, i.e. both are able to perform the essential functions of the position, meet the physical and safety requirements, and have substantially similar experience, education, training, and job knowledge.

The project owner shall submit a detailed plan to implement the program to the CPM for review and approval. The implementation plan shall contain but not be limited to: (1) performance objectives for the program; (2) specific methods to accomplish those objectives; and (3) procedures to revise the plan if performance objectives are not met.

<u>Verification</u>: At least 90 days prior to the start of contruction, or a date mutually agreeable to the project owner and the CPM, the project owner shall submit the detailed plan to the CPM for review and approval. The project owner shall begin to implement the program within seven days after receiving approval of the plan from the CPM. The project owner shall present the results of implementation of the program in the Monthly Compliance Report for review and approval.

The project owner and its contractors and subcontractors shall institute a program to maximize the employment 50 percent its operations workforce made up of Bayview Hunters Point residents first, San Francisco County residents second, and San Mateo County residents third, of residents of Bayview Hunters Point for the operation of the project, to the extent consistent with state and federal law.

<u>Protocol</u>: The program shall include outreach and training to provide interested Bayview Hunters Point residents with an opportunity to obtain the training necessary to qualify for entry level job classifications to be used for operation of the project. The project owner shall submit a detailed plan to implement the program to the CPM for review and approval. The implementation plan shall contain but not be limited to: (1) performance objectives for the program; (2) specific methods to accomplish those objectives; and (3) procedures to revise the plan if performance objectives are not met.

<u>Verification</u>: At least 90 days prior to the start of construction, or a date mutually agreeable to the project owner and the CPM, the project owner shall begin to implement the program within seven days after receiving approval of the plan from the CPM. The project owner shall present the results of implementation of the program in monthly reports for review and approval for the first year of operation and in the annual compliance report thereafter.

SOCIO-4 The project owner shall negotiate a lease with the Port of San Francisco that provides compliance with Chapter 4 of the Draft Waterfront Land Use Plan development standards for cogeneration plants that may be sited within the Cargo Way Mixed Use Opportunity Area.

<u>Verification</u>: Prior to the start of project construction, the Project Owner shall submit evidence to the CPM that the lease with the Port of San Francisco contains provisions for compliance with Chapter 4 of the Draft Waterfront Land Use Plan development standards for cogeneration plants that may be sited within the Cargo Way Mixed Use Opportunity Area.

SOCIO-5 The project owner shall install grass sod and install or upgrade an associated sprinkler system at the Youngblood Coleman Playground located at Galvez and Mendell Streets and the Shoreview Playground located between Rosie Lee and Beatrice Streets in San Francisco.

Protocol: At least sixty (60) days prior to the start of commercial operation (transmission system synchronization), the project owner shall submit for approval a written proposal to the General Manager of the San Francisco Recreation and Park Department for the installation of the sod and sprinklers. The proposal shall contain detailed plans and descriptions of the materials to be used. A copy of the proposal shall be seen to the CPM.

<u>Verification</u>: Prior to the start of commercial operation of the power plant, the project owner shall submit to the CPM a signed statement indicating that the grass sod and sprinklers have been installed according to the approved plans and are operational:

SOCIO-6. The project owner shall morntor the San Francisco Recreation and Park Department's maintenance of the resolding and sprinkler systems installed under the provisions of Condition Socio-5.

<u>Protocol</u>. The project owner shall inspect the condition of the sod every six (6) months and record, in a log<sub>i</sub> the condition of the sod and its capability to suppress dust generation at each park.

If the condition of the sod is unsatisfactory for the intended purpose of supressing dust, the project owner shall notify the CPM and the San Francisco Recreation and Park Department that additional maintenance is required.

If the San Francisco Recreation and Park Department does not respond to the notice by bringing the condition of the sod into compliance, the CPM may direct the project owner to maintain the sod and aprinkler system, subject to the approval of the San Francisco Recreation and Park Department:

<u>Verification</u>. In the Annual Compliance Report, the project owner shall provide a copy of the semiannial inspection log.

SOCIO-7 The project owner shall submit to the San Francisco Port Commission (Port) the August 24, 1995. Memorandum of Understanding (MOU) with the Bayview Hunters Point Clean Environment Coalition (Coalition) for inclusion in Port Lease 7274-02. The terms, conditions, and provisions of the MOU related to the establishment of the Community Empowerment Fund, in part, shall be used to satisfy Section 37 "Community Benefits."

Verification: Prior to the Port acting upon Lease 7274.02, the project owner shall submit to the CPM and Coalition evidence that the terms, conditions, and provisions of the MOU have been included in the Lease.

Note: If the Port elects not to incorporate the provisions of the MOU into the Lease, then the following alternative conditions of certification shall become effective.

ALT, SQCIO-7

Pursuant to the August 24, 1995, Memorandum of Understanding (MOU) between the Bayview Humers Point Clean Environment Coalition and San Francisco Energy Company (project owner), the

project owner shall establish a Community Empowerment Fund (CEF) to support programs, projects, and activities that focus on empowering Community residents, stimulate economic development in the Community, and help improve the quality of life for Community residents of all ages and circumstances. During the construction and 30 years of operation of the project, the project owner shall contribute \$13,000,000 to the CEF.

The project owner, upon commencement of construction of the project, shall make its first quarterly installment of its annual contribution to the CEF as prescribed in the MOU. Subsequent annual contributions shall be determined by the Port of San Francisco and the CEF Advisory Board.

<u>Verification</u>: Upon commencement of construction, the project owner shall present evidence to the CPM of each contribution in the Monthly Compliance Report following the month after each contribution is made, with a sumpary of such payments in the Annual Compliance Report.

SOCIO-8 The project owner shall provide legal assistance in an amount not to exceed \$2,000 for preparation of a charter for the CEF to receive and distribute funds.

<u>Verification</u>. Upon the establishment of the CEF, the project owner shall notify the CPM, in writing, that the CEF has been established and may receive and distribute funds.

SOCIO-9 As required by the San Francisco Unified School District (SFUSD), the project owner shall pay a one-time impact fee of \$17,500.

<u>Verification</u> At least 13 days after receiving a building permit, the project owner shall submit evidence to the CPM that the school impact fee of \$17,500 has been paid to the SFUSD.

### VISUAL RESOURCES

Visual resources are the natural and man-made features of the environment that can be viewed. Visual quality refers to the value of visual resources. Scenic resources are visual resources that contribute positively to visual quality.

The Commission must determine whether the project will adversely affect the visual quality of the area and whether it will conform with applicable laws, ordinances, regulations, and standards. The determination of the significance of any impacts is required by CEQA. (Pub. Resources Code, § 21000 et seq.; Cal. Code Regs., tit. 20, § 1701 et seq.<sup>50</sup>.) Determining whether the proposed project complies with applicable laws, ordinances, regulations and standards is required by Public Resources Code section 25525.

# 1. Setting.

The viewshed of the site is generally the area within approximately 1.5 miles of the proposed project site. (See, VISUAL RESOURCES FIGURE 1.) The area's hills preclude views of the site from beyond this distance except in the Bernal Heights area, up to approximately 2.0 miles from the site. Within this viewshed, five character types occur: heavy industrial, residential, commercial, open space, and the San Francisco Bay. The Bay is the most dominant visual element within the viewshed.

III

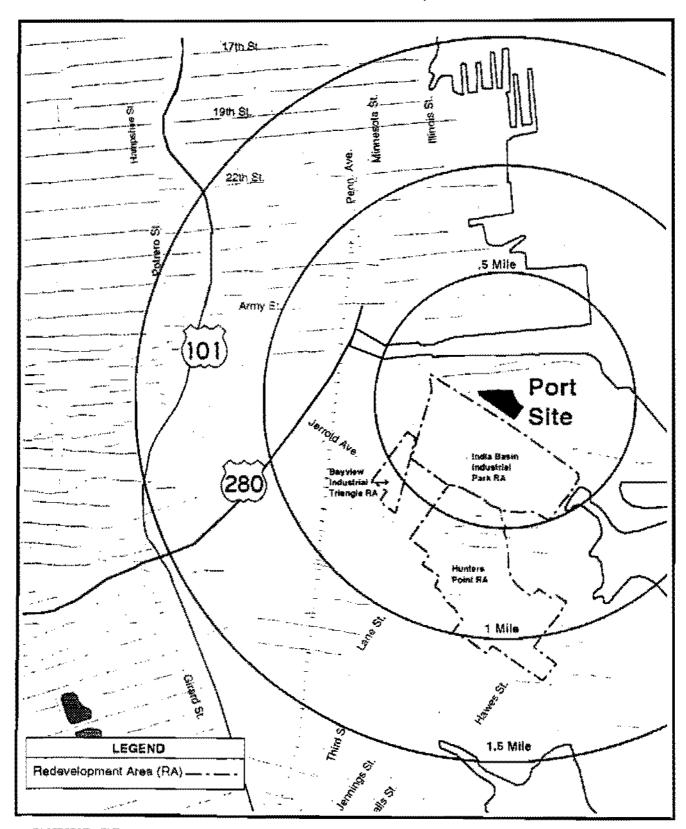
III

III

<sup>&</sup>lt;sup>50</sup> The California Energy Commission's powerplant siting regulations.

# VISUAL RESOURCES FIGURE 1

Port Site Vicinity



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, APRIL 1995.

(Source: FSA, Vol. I, p. 638.)

Industrial uses occupy the low-lying areas along the waterfront and east of Highway 101 between Potrero Hill and the hills that make up Bayview Hunters Point. This area has two distinct visual sub-areas. The first is a maritime-related industrial zone that includes large-scale structures such as cranes, grain elevators, large warehouses, and the existing PG&E Hunters Point powerplant. Interspersed between these uses are large expanses of undeveloped land and pavement. The Islais Creek Bridge, a local landmark bridge, is also located in this sub-area. Because of its industrial design, the bridge contributes to the prevalent industrial character. (FSA, Vol. I, p. 637.)

The other visual sub-area, located to the west, consists of smaller-scale warehouse structures. Residential/commercial areas are located in the hills to the north, west, and south of the site. The Potrero Hill neighborhood to the northwest is characterized by detached and attached houses and apartments. Bernal Heights, to the west, contains attached and detached houses interspersed with vegetation, and includes a distinctive open space on its peak. Bayview Hunters Point has two hills primarily containing attached housing units. (Id.)

The Bay and downtown San Francisco are the major visual focal points in the project vicinity. Those areas with views toward the project site focus primarily on the Bay. Bay views extend over varying amounts of the intervening industrial areas. The East Bay hills are also prominent from most Bay view areas. The Bay Bridge and Yerba Bucha Island are prominent from some views. In addition, some of the Bay view areas have peripheral views to downtown San Francisco. Secondary views are to the surrounding residential areas occupying the hillsides. Views from the low-lying areas are generally limited to the surrounding hills. (FSA, Vol. 1, p. 639.)

The project site is undeveloped, consisting of piles of soil and debris surrounded by grasses and shrubs. The most noticeable visual elements are the structures near the site. These consist of a grain elevator structure ranging from 90 to 187 feet tall just to the north; the Darling International, Inc. rendering plant, immediately to the northeast; several container-loading cranes approximately 5,000 feet to the northeast and east that reach a height of approximately 200 feet

when in stored position; two radio antennas located approximately 450 feet and 1,350 feet to the northeast of the project and reaching a height of 350 feet; and the PG&E Hunters Point powerplant approximately 5,000 feet to the south, with exhaust stacks ranging from 150 to 250 feet. Low-rise commercial uses, including a large postal facility, occupy the area just across Cargo Way from the site. (FSA, Vol. 1, pp. 637, 639.)

# 2. Potential Impacts.

In order to assess the potential visual impacts of the project, SFEC and Staff agreed to use 7 Key Observation Points (KOPs). (See VISUAL RESOURCES FIGURE 2.) KOPs were chosen to provide the basis for evaluation of project impacts by comparing the appearance before and after project construction, and to be representative of the most-critical sensitive locations from which the project will be seen. (FSA, Vol. I, p. 610.) SFEC stated that KOPs were selected to represent the "worst case" views of the facility. (AFC, p. 5.11-2.)

The photographs of KOPs 1 through 7 show the various views from the various KOPs.<sup>51</sup> In each figure the top photograph shows the view as it now exists from a specific KOP without the project. The lower photograph contains the addition of a computer designed simulation of the powerplant as it would appear from that KOP. The project's visual impacts can be anticipated by comparing the two photos. (See Photos of KOPs 1 through 7.)

# 3. Summary of Evidence and Proposed Mitigation.

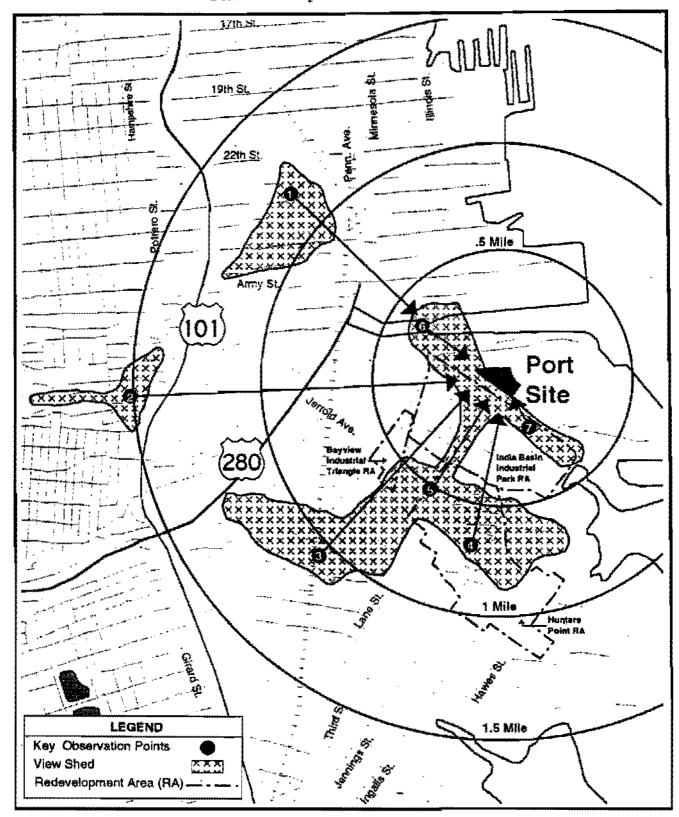
SFEC. SFEC's expert witness summarized the steps he took to assess existing visual conditions in the project area and to examine potential changes which would likely occur as a result of constructing the project. He first analyzed the visual character of the region, of the vicinity, and of the site itself. The second step was to determine who would see the project,

<sup>&</sup>lt;sup>31</sup> These seven photos were included in the FSA as VISUAL RESOURCES FIGURES 20 through 27 and retain those designations here as well.

whether the	viewers were located in the	ir residences or at the	workplace, and	what KOPs would
best represe	nt different views.			
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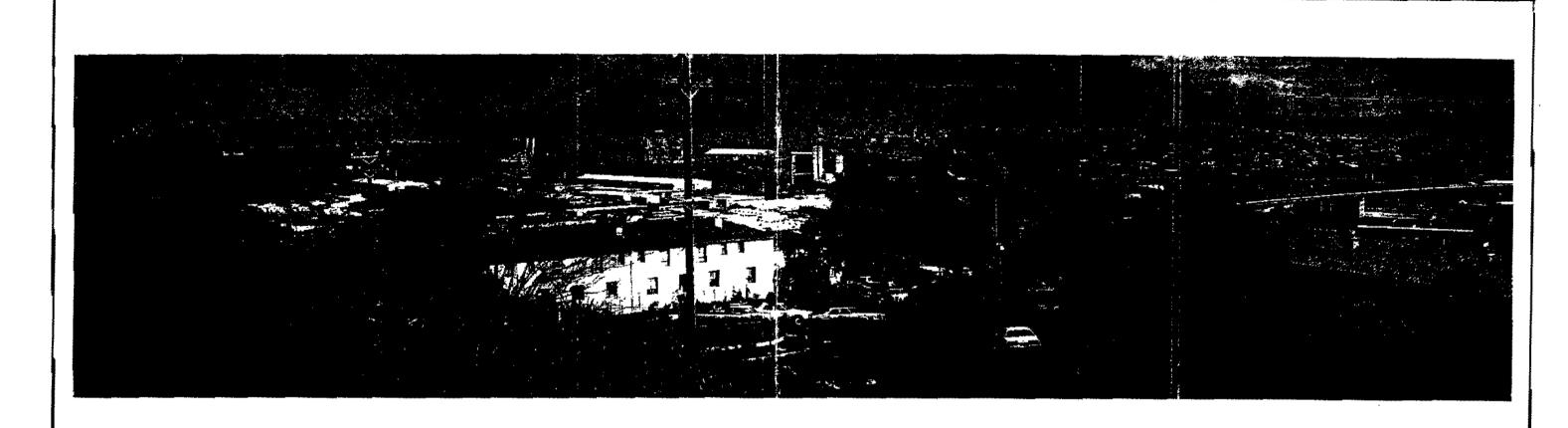
# VISUAL RESOURCES FIGURE 2

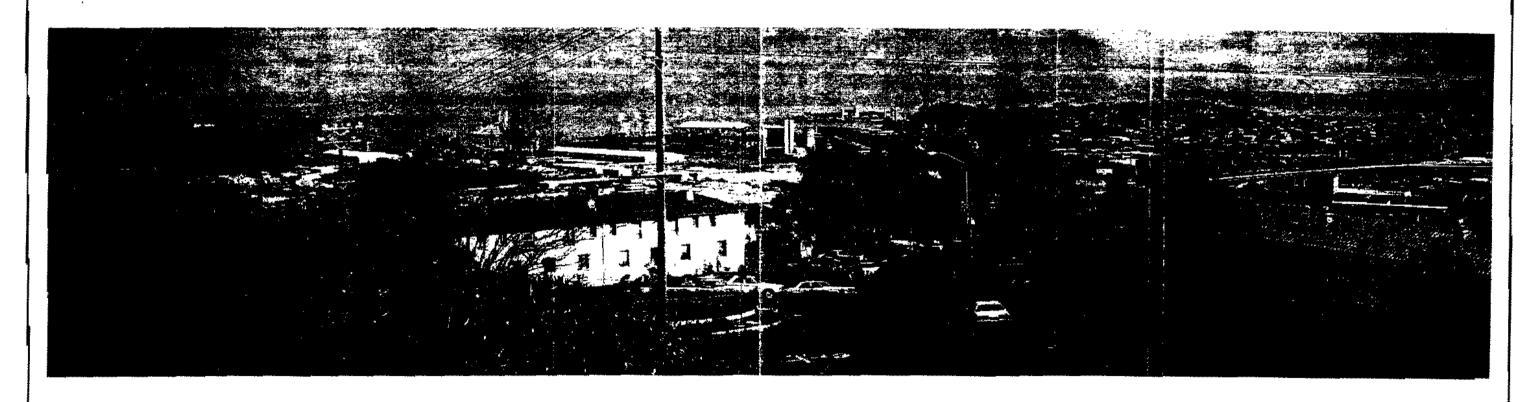
Port Site - Key Observation Points

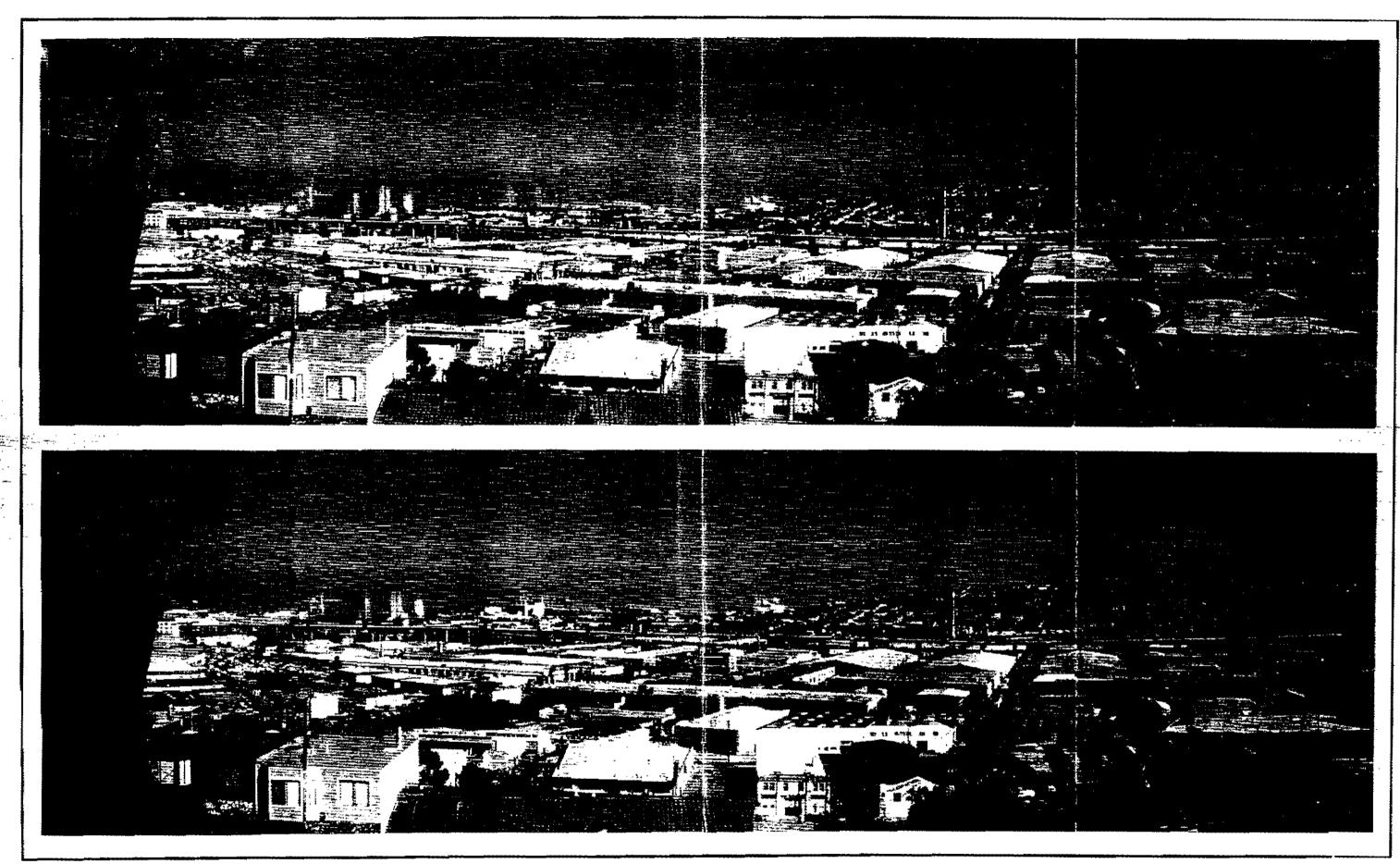


CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITTING & ENVIRONMENTAL PROTECTION DIVISION, APRIL 1995.

(Source: FSA, Vol. I, p. 642.)



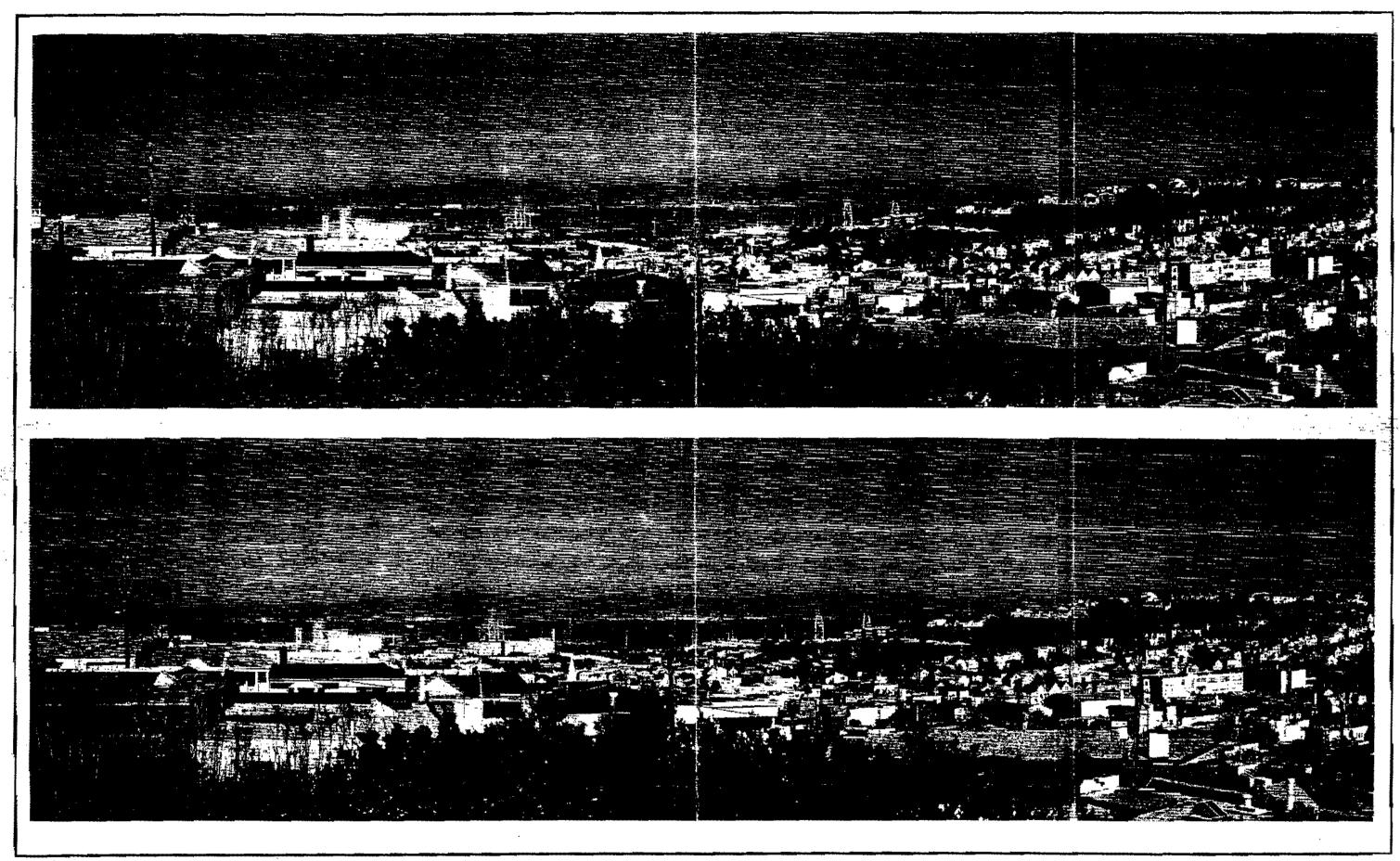




CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, April 1995.

SOURCE: Adapted from SFBC 1994s, Fig. 5.11-14.

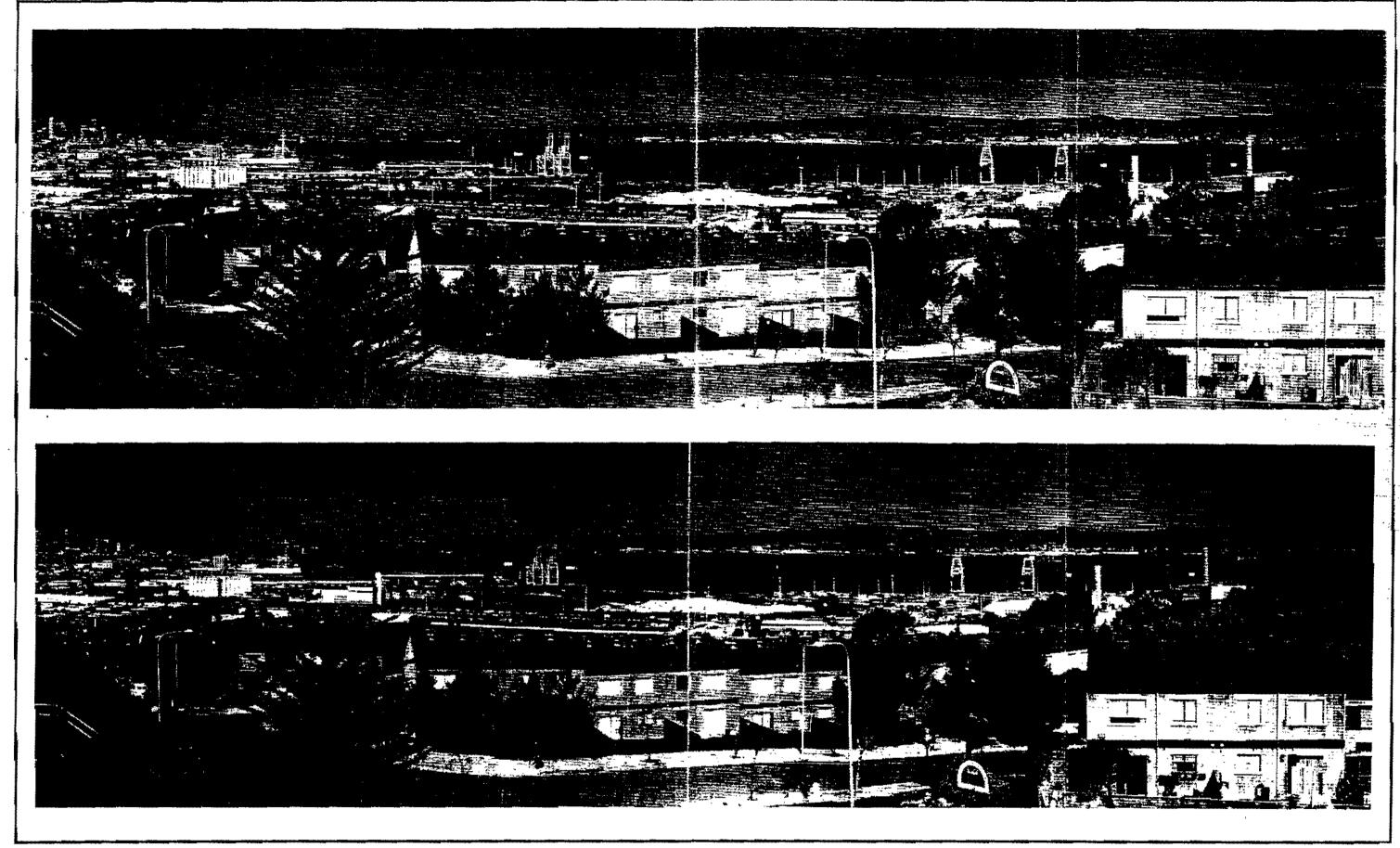
Visual Resources Figure 21
Port Site - Key Observation Point 2
(Bernal Heights, Brewster Street)
Existing Setting (top) & Facility Simulation (bottom)



CALIFORNIA ENERGY COMMISSION, ENERGY PACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION. April 1995.

SOURCE: Adapted from SPEC 1994a, Fig. 5.11-15.

Visual Resources Figure 22
Port Site - Key Observation Point 3
(Bayview Hunters Point, Bayview Circle)
Existing Setting (top) & Facility Simulation (bottom)

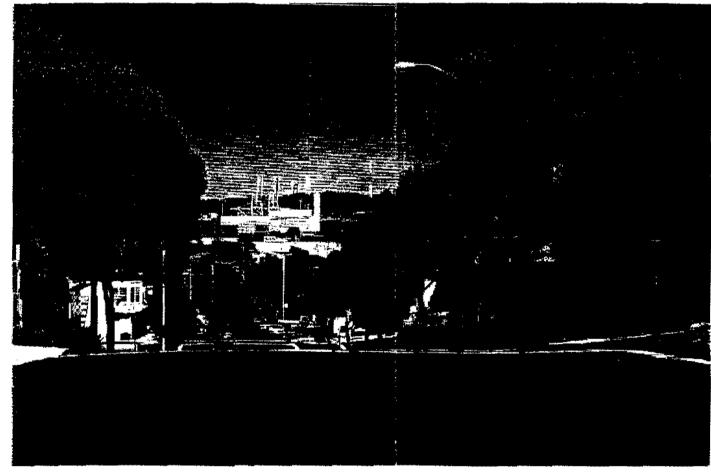


CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION. April 1995.

SOURCE: Adapted from SPEC 1994a, Fig. 5.11-16 & 5.11-22.

Visual Resources Figure 23
Port Site - Key Observation Point 4
(Bayview Hunters Point, Hawkins Lane)
Existing Setting (top) & Design Refinement Simulation (bottom)

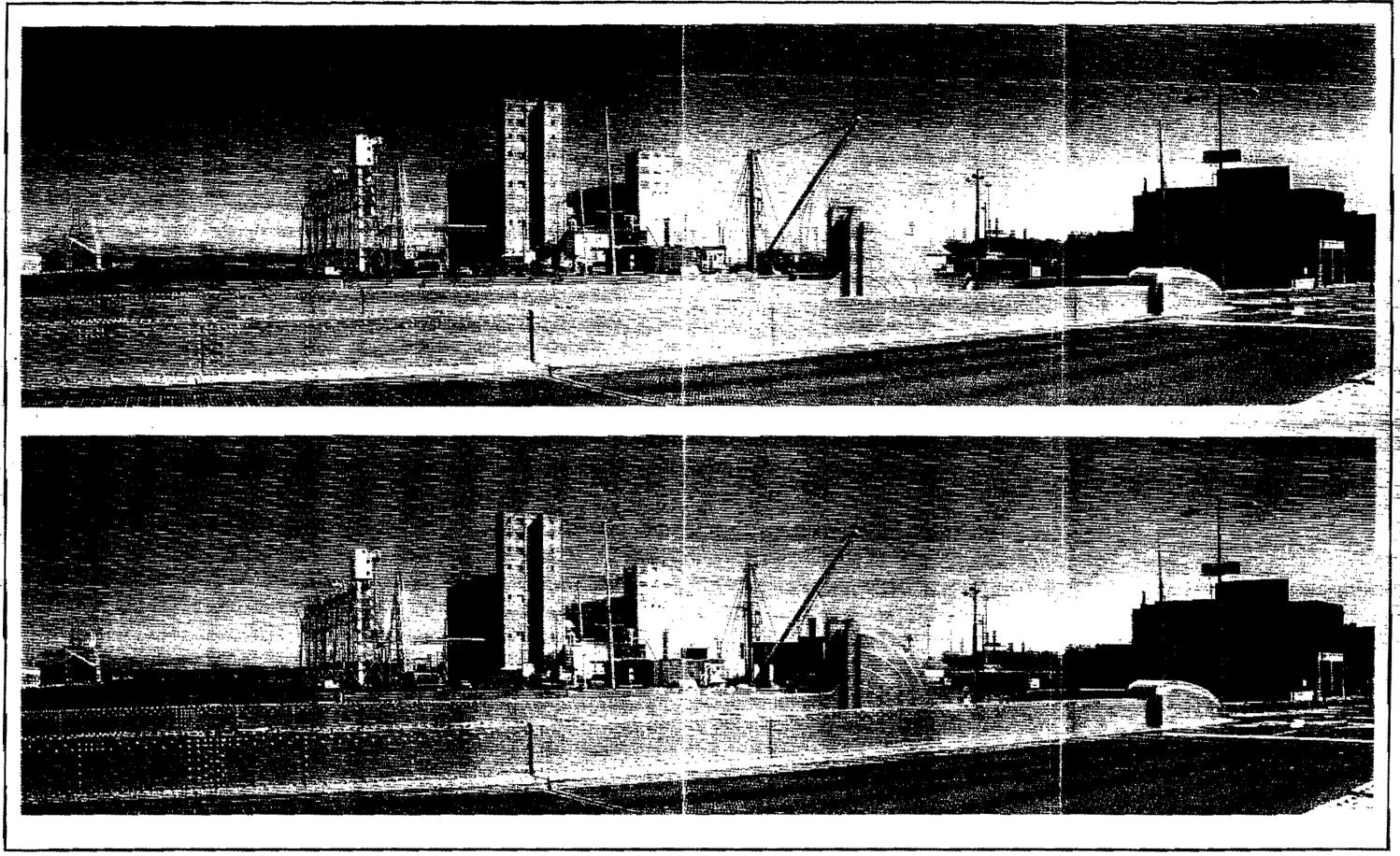




CALIFORNIA ENERGY COMMISSION, ENERGY PACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, April 1995.

SOURCE: Adapted from SPEC 1994c, Figures 5.11-17 & 5.11-23.

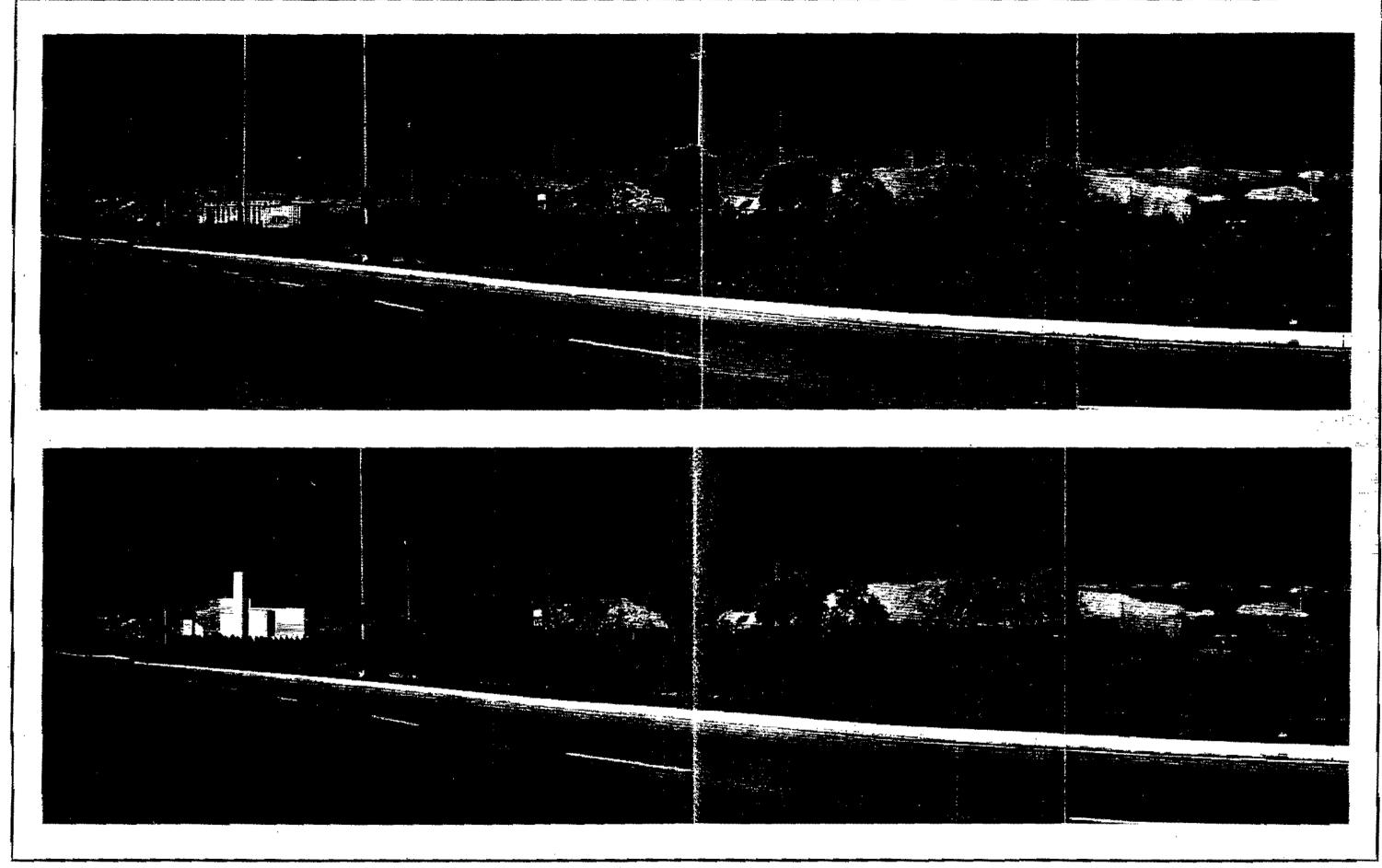
Visual Resources Figure 24
Port Site - Key Observation Point 5
(Bayview Hunters Point, Mendell Street)
Existing Setting (top) & Design Refinement Simulation (bottom)



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, April 1995.

SOURCE: Adapted from SFEC 1994a, Fig. 5.11-18.

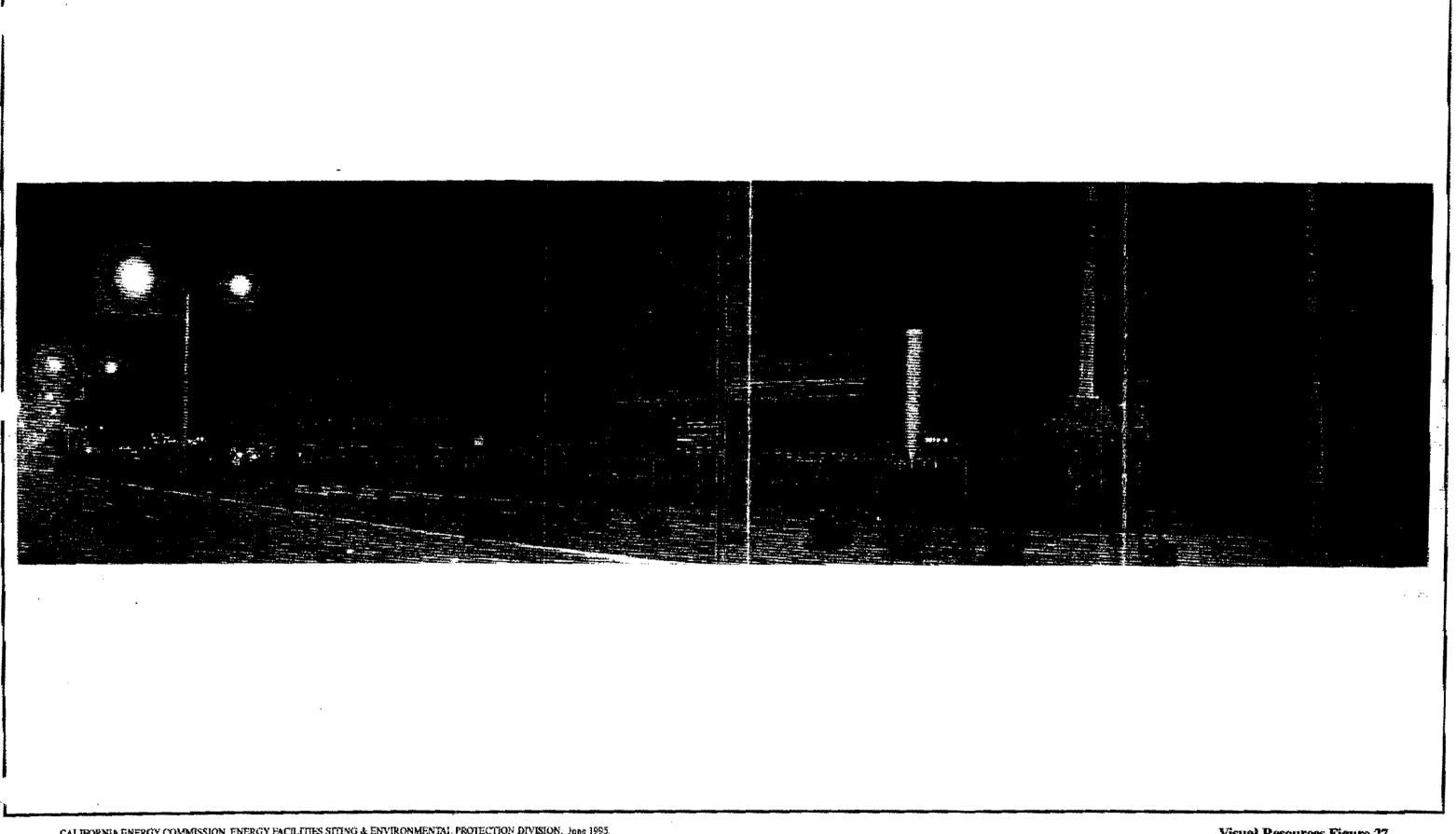
Visual Resources Figure 25
Port Site - Key Observation Point 6
(India Basin, Third Street Bridge)
Existing Setting (top) & Facility Simulation (bottom)



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, April 1995.

SOURCE: Adapted from SFEC 1994a, Figures 5.11-19 & 5.11-24.

Visual Resources Figure 26
Port Site - Key Observation Point 7 (India Basin, Cargo Way)
Existing Setting (top) & Design Refinement Simulation (bottom)



Next the witness used computer graphics to impose a simulation of how the project would appear upon photographs representing views from the various KOPs. Finally, he identified from the retouched photos any adverse visual impacts and what mitigation measures would be required to avoid such impacts. These mitigation measures, described in the AFC, follow two basic approaches:

- 1. Utilize architectural enhancements of the facility's components, including materials, color, and facade design alternatives. The architectural enhancements could include colors and textures that reduce the structure's scale, reduce contrasts between the facility and its surroundings, or highlight elements to create dynamic architectural features.
- 2. Include architectural and landscape elements to screen, blend, and/or soften views. This may include architectural elements, walls, or plantings to redirect or screen particular visual elements. These elements may also be used to create forms of intermediate scale to help integrate the facility into its surroundings and reduce contrasts and undesirable views. (AFC, pp. 5.11-48, 5.11-57; pp. 5.11, 103-104.)

The witness noted that based on the scale of development, the project site was identified as commercial/industrial. Within that category it could be further classified as falling within an industrial maritime zone. His final conclusion was that the project did not impose a significant change to the visual environment in the project's vicinity. From long range views the project tends to blend into the existing industrial development. SFEC will implement various mitigation measures to eliminate any potential adverse visual effect upon closer views of the project from residences. (7/11/95 RT 172-175.)

Staff. The Staff witness described his method for analyzing visual impacts of the project. He reviewed the SFEC's proposal, identified relevant laws, standards, policies, and consulted with local agency staff. After numerous visits to the project area, he assisted in selecting the representative KOPs used. His evaluation of the project's visual impacts as seen from the various KOPs is summarized in VISUAL RESOURCES TABLE 1.

# VISUAL RESOURCES TABLE 1

# Visual Impact Susceptibility<sup>1</sup> - Key Observation Points

	VISUAL QUALITY	VIEWER SENSITIVITY	VISIBILITY	VIEWER EXPOSURE	VISUAL IMPACT SUSCEPTIBILITY
Key Observation Point-1	Moderate to High?	High	Low-to- Moderate	Moderate to High	Maderate
Key Observation Point 2	Moderate	High	High	Moderate	High
Key Observation Point 3	Moderate to High	High	High	Moderate to High	High
Key Observation Point 4	Moderate to High	<del>High</del>	High	High	High
Key Observation Point-5	Modarate- to High	High	High	High	<del>High</del>
Key Observation Point 6	Low	<del>Low</del>	Low	<del>Moderate</del> to High	Low
Key Observation Point 7	Low-to- Moderate	<del>Low to</del> Moderate	High	Moderate-to- High	<del>Moderate</del>
Highway 101 Northbound	Low to Moderate	Low	Lew to- Moderate	Moderate	Moderate
Highway 101 Southbound	Low-to- Moderate	Low	Low to Moderate	Moderate	Moderate
I-280 Northbound	Moderate	Lew	Medurate	Moderate	Mederate
I-280 Southbound	Moderate	* China China	<del>Low</del>	Moderate	Moderate

<sup>-(</sup>Sauton #8A, Val. I, p. 643.)

<sup>1-</sup>Values are for both daytime and nighttime conditions.

Walues that include two hyphenated scores (such as Moderate to High) indicate a value between the two scores, not a range of values.

The Staff specialist attended public workshops at which members of the affected community voiced their concerns about the project. He also evaluated SFEC's proposed mitigation measures and recommended additional measures to further reduce the project's visual impact on the area. Additional measures would include: the shielding of all outdoor lighting, the use of a wet-dry cooling tower system to minimize visible steam plumes, and measures to reduce stack plumes as well.

The mitigation measures proposed by both the Staff and SFEC are incorporated in the Conditions of Certification which are included at the end of this section. In the opinion of the Staff witness, the combination of measures, if properly implemented, will reduce the project's visual impacts to less than significant levels. He stated that the project as mitigated would comply with the applicable laws, ordinances, regulations, and standards. Regarding cumulative impacts, he noted that the project would not substantially intensify the industrial appearance of the area and thus will not contribute to a cumulative impact. (7/11/95 RT 192-195.)

Intervenors. The Innes Avenue Coalition called Philip Ragozzino as a citizen witness in opposition to the project. Mr. Rogozzino lives on Bowman Court, three-quarters of a mile south of the project site and can see the location from his home. He gave three reasons for his opposition to the project on the grounds of its visual impacts on the community. First, he testified that the sight of the proposed powerplant will impede further economic development in the community. Second, he opined that construction of the proposed powerplant will cause visual impacts which will reduce the value of his property. Third, he stated that he feels the proposed project will be an "eyesore". In this regard he noted that the proposed project will be located in the middle of a prized view from his bedroom window. The witness testified that the Hunters Point area holds great potential to be revitalized and that the visual impacts of the SFEC's project will reduce that potential. (7/11/95 RT 227-230.)

The Innes Avenue Coalition also sponsored as a citizen witness, Ms. Anita Hanks, a resident of the Hunters View Projects located on Point West Road. Her residence is located south of the proposed powerplant site, at a slightly greater distance than Mr. Roggozino's home.

Ms. Hanks is involved in landscaping to help beautify the neighborhood. She stated that construction of the powerplant would degrade such efforts to beautify the community. She noted that she currently can see the PG&E powerplant from her living room window and would see the proposed project from her dining room. (Id., 234-236.)

# 4. Commission Discussion.

The Commission's experience with powerplant siting cases has shown that the visual impacts of a major powerplant project must be addressed on several levels. The first is to determine whether the project complies with applicable laws, ordinances, regulations, and standards which deal with visual impacts. Next the Commission must evaluate whether the project's visual intrusion on the environment is significant and, if so, whether the impact has been reduced or mitigated to the greatest extent feasible, thereby helping the project to blend into its surrounding. In response to the Intervenors' concerns, the Commission in this case also evaluated the project's impacts on the community because of its-perceived symbolic significance - its perceived capacity to stigmatize the vicinity of the powerplant.

SFEC demonstrated in its testimony that the proposed project will comply with legal requirements applicable to the powerplant's visual impacts. The Staff evidence showed that the project will comply with the vast majority of legal requirements but will be partially inconsistent with a policy in the San Francisco Master Plan (Master Plan) concerning visual access to the water. (FSA, Vol. I, p. 730.) However, in its testimony, Staff noted that the inconsistency is not substantial since the project is an industrial one in an area designated for industrial development. Staff concludes that, "foin the whole, the project complies with the Master Plan". (Supplemental Staff Testimony on Visual Resources and Socioeconomics, p. 2, 6/30/95.) No other party challenged this conclusion. Thus, the conformity with legally enforceable visual standards is not at issue.

The methodologies used by both SFEC and the Staff provide a logical means to assess the project's visual impacts on the neighborhood. KOPs were selected to represent "worst case"

examples of various view areas. This was done by SFEC with input from local residents and the Staff. Nevertheless, Intervenor Innes Avenue Coalition argued that no KOPs were chosen at the Hunters View Project where witness Anita Hanks resides, or at the Bowman Court area where witness Philip Ragozzino lives. While it would have been instructive, in an ideal world, to have each witness' testimony accompanied by a KOP "before and after" photo showing the project's visual impacts, the Commission does not have that information in the record. We do, however, have before us a collection of photos which represent seven different KOPs showing the project from various angles and distances. This evidence, as well as the testimony of the parties and the personal observations of the Siting Committee members reveal a project site in the midst of an industrial area. The existing facilities which surround it have strong industrial visual components. No evidence of record contradicts this impression or calls into doubt the methodologies applied by SFEC and by the Staff.

While the evidence shows that the project will certainly be visible to many people, the mitigation measures proposed by SFEC will minimize the plant's interference with existing views. Architectural and landscaping measures will soften the project's visual impact on the neighborhood. Sophisticated modeling of the plume from the project's heat recovery steam generator predicted that a visible plume would arise from the stack less than 1 percent of the year, far less than that from a conventional cooling tower. In addition, the mitigation measures proposed by the Staff and contained in the Conditions of Certification will further reduce the plant's visual intrusion on the local environment. On balance, the Commission is persuaded that implementing the combination of mitigation measures proposed by SFEC and by the Staff will reduce visual impacts of the project to less than significant levels.

The concerns of the Intervenors' witnesses are quite understandable. Those who work hard to improve their neighborhood are quite naturally concerned that a large project may be contrary to their efforts to beautify the neighborhood. However, the evidence shows that the proposed facility will include design features which will either enhance its appearance or reduce its visual impact. The same cannot be said for other industrial facilities in the area. Furthermore, no evidence was submitted to support the fear that the stigma of a powerplant will

per se reduce property values in the area. On the contrary, a number of the community enhancements discussed in the section of this Decision on SOCIOECONOMICS and on ENVIRONMENTAL JUSTICE have the potential to assist the neighborhood in its ongoing revitalization efforts.

### FINDINGS AND CONCLUSIONS

Based on the persuasive weight of the evidence of record, the Commission makes the following Findings and Conclusions:

- 1. The project will be constructed in a location presently devoted to heavy industrial use.
- 2. Views of San Francisco Bay from the various Key Observation Points in evidence are characterized by numerous manmade and industrial elements.
- 3. The mitigation measures will offset, avoid, and mitigate to less than significant levels any negative visual effects of the project.
- 4. Even with the imposition of the mitigation measures contained in the Conditions of Certification, there will be a degree of intrusion into the views of some residents near the project.
- 5. The project, as mitigated, will not represent a significant adverse visual impact on the surrounding community.
- 6. With the implementation of the Conditions of Certification, the project will comply with all applicable laws, ordinances, regulations, and standards identified in the Visual Resources section of APPENDIX: LORS of this Decision.

### CONDITIONS OF CERTIFICATION

### Requirement:

VIS-1 No later than 60 days after synchronization with—the Pacific Gas & Electric Company's (PG&E) Transmission System, the project owner shall treat the project structures, stacks, buildings, and tanks visible to the public to minimize contrast and harmonize with the surrounding environment.

<u>Protocol</u>: The project owner shall submit a treatment plan for the project to the California Energy Commission Compliance Project Manager (CPM) for review and approval. The project owner shall contemporaneously provide the Coalition with a copy of the treatment plan. The color plan shall include:

- specification, and 11" x 14" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture;
- a detailed schedule for completion of the treatment; and,
- a procedure to ensure proper treatment maintenance for the life of the project.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall submit to the CPM a revised plan.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

For any structures that are treated during manufacture, the project owner shall not specify the treatment of such structures to the vendors until the project owner receives notification of approval of the treatment plan by the CPM.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

The project owner shall notify the CPM when all precolored structures have been erected and all structures to be treated in the field have been treated and the structures are ready for inspection.

<u>Verification</u>: No later than 60 days after the start of construction of the project, the project owner shall submit its proposed plan to the CPM for review and approval, and to the Coalition for review. The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the plan.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

No later than 60 days after synchronization with the PG&E Transmission System, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

VIS-2 Any fencing for the project shall be non-reflective.

<u>Protocol</u>: At least 30 days prior to ordering the fencing the project owner shall submit to the CPM for review and approval, the specifications for the fencing documenting that such fencing will be non-reflective. The project owner shall contemporaneously provide the Coalition with a copy of these specifications. If the CPM notifies the project owner that revisions of the specifications are needed before the CPM will approve the submittal, the project owner shall submit to the CPM its revised specifications.

The project owner shall not order the fencing until the project owner receives approval of the fencing submittal from the CPM.

The project owner shall notify the CPM when the fencing has been installed and is ready for inspection.

<u>Verification</u>: Not later than 180 days after project certification and at least 30 days prior to ordering the non-reflective fencing, the project owner shall submit the specifications to the CPM for review and approval. The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the fencing submittal.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within seven days after completing installation of the fencing that the fencing is ready for inspection.

VIS-3 No later than 270 days after synchronization with the PG&E Transmission System, the project owner shall install screening to reduce the visual impact of the project.

<u>Protocol</u>: The project owner shall submit to the CPM for review and approval a specific plan describing its screening proposal. The plan shall include but not be limited to:

1) a detailed screening plan, at a reasonable scale, which includes a list of materials to be used, any proposed plant species and sizes, and a discussion of the suitability of any screening materials and plants for the site conditions and mitigation objectives. A variety of native and non-native trees and shrubs shall be planted and maintained to provide visual screening and nesting opportunities, cover, and food for the local birds and other wildlife species. These plantings shall be maintained for the life of the project.

Examples of plant species useful to wildlife are:

- toyon (Heteromeles arbiaifolia);
- cotoneaster (Cotoneaster sp.);
- wild lilac (Ceanothus spp.):
- coffee berry (Rhumnus californica);
- pyracantha (Pyracantha anxustifolia);
- blackberries (Rubus spp.);
- barberry (Berberis spp.);
- mauzanita (Arctostaphylos spp.),
- coast redwood (Sequoia sempervirens);
- coyote bush (Baecharis pilularis); and
- cucşiyptus (Eucatyptus spp.)

The project owner shall hire a local landscape architect for a person with equivalent pertinent expertise) familiar with the local native and non-native plant species to select and plant the most appropriate species for this project site and location. Species chosen shall 1) be suitable for the San Francisco peninsula, 2) be relatively fast growing: 3) be long-lived; 4) be drought-tolerant, and 5) provide food and/or cover for local birds and other wildlife.

- 2) maintenance procedures, including any needed irrigation.
- 3) a procedure for replacing unsuccessful plantings.

No screening material shall be installed and no plants shall be planted before the plan is approved by the CPM. The project owner shall notify the CPM when the screening material has been installed and any plants have been planted and are ready for inspection.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan.

<u>Verification</u>: No later than 150 days after synchronization with the PG&E Transmission System, the project owner shall submit the proposed screening plan to the CPM for review and approval.

The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the screening plan.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification the project owner shall prepare and submit to the CPM a revised plan.

The project owner shall notify the CPM within seven days after completing the screening that the screening is ready for inspection.

- maintenance procedures, including any needed irrigation;
- a procedure for replacing unsuccessful plantings.

No screening material shall be installed and no plants shall be planted before the plan is approved by the CPM. The project owner shall notify the CPM when the screening material has been installed and when any plants have been planted and are ready for inspection.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan.

<u>Verification</u>: No later than 150 days after synchronization with the PG&E Transmission System, the project owner shall submit the proposed screening plan to the CPM for review and approval. The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the screening plan.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification the project owner shall prepare and submit a revised plan to the CPM.

The project owner shall notify the CPM within seven days after completing the screening that the screening is ready for inspection.

VIS-4 The project owner shall design and construct the heat recovery steam generator (HRSG) stack and auxiliary steam boiler stack so as not to exceed a height of 111 feet above finished grade.

<u>Verification</u>: Not later than 30 days prior to ordering fabrication or construction of the stacks (whichever comes first), the project owner shall submit to the CPM documentation that the stacks have been designed in compliance with this requirement. Not later than 30 days after completion of construction of the stacks, the project owner shall submit to the CPM

documentation that the stacks have been constructed in compliance with this requirement. The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the submittal.

VIS-5 The project owner shall design and construct the testing platform for the heat recovery steam generator (HRSG) stack and auxiliary steam boiler stack so as not to exceed the maximum height of the HRSG enclosure, to the extent allowed by applicable air quality regulations.

<u>Verification</u>: Not later than 30 days prior to ordering fabrication or construction of the testing platform (whichever comes first), the project owner shall submit to the CPM documentation that the testing platform has been designed in compliance with this requirement. Not later than 30 days after completion of construction of the testing platform, the project owner shall submit to the CPM documentation that the testing platform has been constructed in compliance with this requirement. The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the submittal.

VIS-6 When a visible cooling tower plume occurs between 6 a.m. and midnight, the project owner shall immediately initiate action at the first sign of a visible plume to minimize the size of the plume. Maximum abatement shall be achieved within 30 minutes after initiating action.

<u>Protocol</u>: The method to be used to eliminate any visible cooling tower plume shall be to design, install, and operate a wet/dry plume abated cooling tower as part of the project.

The goal of the mitigation is to reduce the occurrence of visible cooling tower plumes to a maximum of ten percent of the total hours per year, and to minimize the duration and size of plumes that persist even with abatement action.

Verification: In the annual compliance report the project owner shall:

- 1. Specify any occurrences of visible cooling tower plumes, including time of onset and estimated maximum dimensions:
- Describe any methods used to minimize each occurrence of a visible cooling tower plume, including the time clapsed between the onset of the visible plume and the implementation of the abatement method(s); and
- 3. Describe the effectiveness of the abatement methods used for each occurrence, including the time elapsed between application of the method(s) and elimination of the visible plume.

VIS-7 When a visible stack plume occurs between 6 a.m. and midnight, the project owner shall immediately initiate action at the first sign of a visible plume to minimize the plume. Minimization shall be achieved within 30 minutes after initiating action.

<u>Protocol</u>: The project owner shall minimize any visible stack plume by reducing duty on the low-temperature economizer section of the HRSG by partially bypassing the economizer on the water side.

Verification: In the annual compliance report the project owner shall:

- 1. Specify any occurrences of visible stack plumes, including time of onset and estimated maximum dimensions:
- Describe any methods used to minimize each occurrence of a stack plume, including the time elapsed between the onset of the visible plume and the implementation of the abatement method(s); and
- 3. Describe the effectiveness of the abatement methods used for each occurrence, including the time elapsed between application of the method(s) and elimination of the visible plume.
- VIS-8 No later than 90 days after synchronization with the PG&E Transmission System, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. To meet these requirements:

<u>Protocol</u>: The project owner shall develop and submit a lighting plan for the project to the CPM for review and approval. The project owner shall also provide the Coalition with a copy of the lighting plan. The lighting plan shall require that:

- Lighting is designed so that exterior light fixtures are hooded, with lights
  directed downward or toward the area to be illuminated and so that
  backscatter to the nighttime sky is minimized. The design of this outdoor
  lighting shall be such that the luminescence or light source is shielded to
  prevent light trespass and unwanted glare visible from residential areas;
- High illumination areas not occupied on a continuous basis such as maintenance platforms or the main entrance are provided with switches or motion detectors to light the area only when occupied; and

A lighting complaint resolution form (following the general format of that
in Attachment 1) will be used by plant operators, to record all lighting
complaints received and document the resolution of those complaints. All
records of lighting complaints shall be kept in the on-site compliance file.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan. In this instance, the project owner shall also provide the Coalition with a copy of the revised plan.

Lighting shall not be installed before the plan is approved. The project owner shall notify the CPM when the lighting has been installed and is ready for inspection.

<u>Verification</u>: At least 60 days before ordering the exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval. The CPM will notify the project owner of approval or disapproval within 15 days of receipt of the lighting plan.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within-seven days of completing exterior lighting installation that the lighting is ready for inspection.

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# ATTACHMENT 1

# LIGHTING COMPLAINT RESOLUTION FORM

SFEC COGENERATION PROJECT San Francisco, California			
Complainant's name and address:			
Tal. — a manufa gang			
Phone number:			
Date complaint received: Time complaint received:			
Nature of lighting complaint:			
Definition of problem after investigation by plant person	nnel:		
Date complainant first contacted:			
Description of corrective measures taken:			
1203001 in an and and an analysis of a second of the secon			
Complainant's signature:	Date:		
Approximate installed cost of corrective measures: \$			
Date installation completed:			
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.)

### TRAFFIC AND TRANSPORTATION

This section summarizes the separate analyses by both SFEC and the Commission sStaff of the potential traffic and transportation impacts associated with construction and operation of the project. These analyses included the identification of: 1) the roads and routings which are proposed to be used; 2) potential traffic-related problems associated with those routes; 3) the anticipated number of trips to deliver oversize/overweight equipment; 4) the anticipated encroachment upon public rights-of-way during the construction of the proposed project and associated linear facilities; 5) the frequency of trips and probable routes associated with the delivery of hazardous materials; and 6) the availability of alternative transportation methods such as rail.

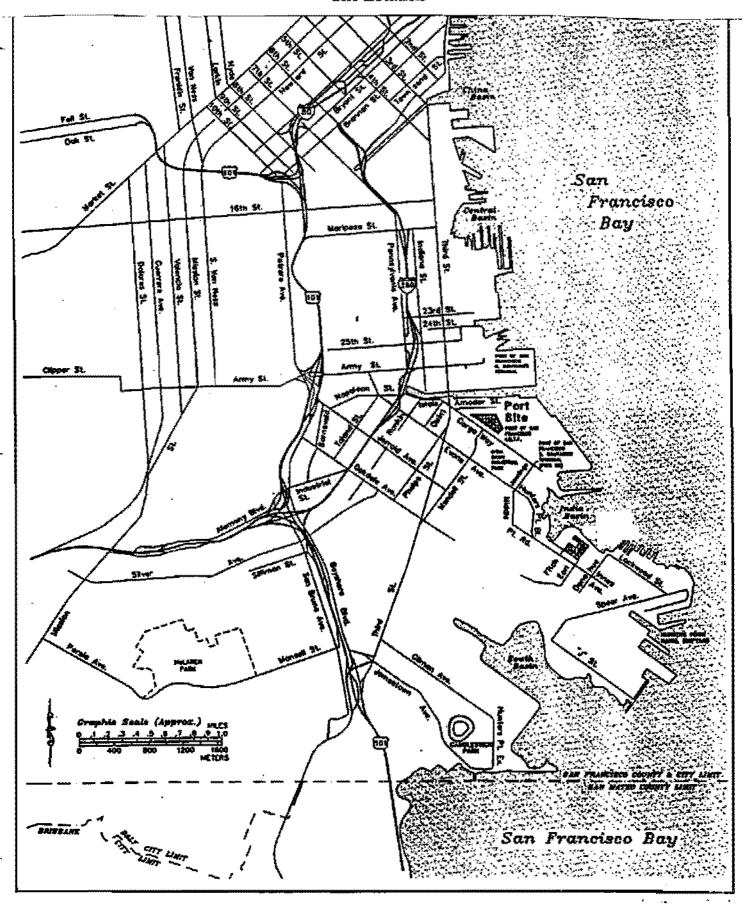
The Commission used this information to determine the potential for the project to have significant Traffic and Transportation impacts, as well as to assess the availability of mitigation measures which could reduce or eliminate the significance of those impacts. Conditions of Certification are included to implement the appropriate mitigation measures and to ensure that the project complies with the applicable laws, ordinances, regulations, and standards.

### 1. Setting.

The project site is located in the Bayview Hunters Point area in the southeast corner of San Francisco. Primary north-south access is provided by US 101, I-280, and Third Street. Principal east-west access is provided by I-280 west of US 101, Army Street, Evans and Innes Avenues, and Oakdale Street. (Sec., TRAFFIC AND TRANSPORTATION FIGURE 1.) A network of local streets provides access from these major routes. The characteristics of streets in the area of the project are set forth in TRAFFIC AND TRANSPORTATION TABLE 1.

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			,	

# TRAFFIC AND TRANSPORTATION FIGURE 1 Site Location



(Source: AFC, Figure 5.10-1.)

# TRAFFIC AND TRANSPORTATION TABLE 1

# **Street Characteristics**

STREET	WIDTH (feet)	LANES	SPEED LIMIT	PARKING	COMMENTS
Army Street - West of Third Street - East of Third Street	60 60	4	30 mph 30 mph	2 sides 2 sides	Freeway access route
Evans Avenue - East of Third Street - West of Third Street	88 60	4 4	35 mph 35 mph	2 sides 2 sides	Speed limit varies 35 to 25 mph.
Innes Avenue	60	4	25 mph	2 sides	Limited development access to adjacent uses.
Hunters Point Boulevard	60	4	25 mph	Restricted	Transition between Evans and Innes Avenues
Cargo Way	78	4	35 mph	2 sides	Median-restricted right of way, direct access to Pier 96.
Phelps Street	33	2	25 mph	2 sides	Narrow
Jennings Street	48	2	25 mph	2 sides	Connector between Evans Ave. and Cargo Way
Mendell Street	68	2	25 mph	2 sides	Wide roadway, serves adjacent industrial park
Oakdale Avenue	48	4	30 mph	2 sides	
Bayshore Boulevard - Oakdale to Cortland - South of Cortland	100 100	6 6	25 mph 25 mph	2 sides 2 sides	Two-way left-turn lane
Quint Street	47	2	25 mph	2 sides	No curb, railroad tracks down middle, utility pole

(Source: FSA, Vol. I, p. 548; Modified from SFEC 1994a, Table 5.10-1 and SFEC 1994b, Data Response TRANS-1.)

# 2. Potential Impacts.

The greatest impacts are expected to include: direct disturbance of traffic flows, street operation, and parking due to traffic re-routing; blocked lanes; trucks hauling equipment, spoils, and materials; and construction workers commuting to and from the job site. (AFC 5.10-21 to 5.10-26.)

During construction, an average daily workforce of 112 workers and a peak daily workforce of approximately 195 workers is expected. SFEC and the Commission-sStaff concluded that while traffic will be added to all impacted intersections, the amount of traffic generated by construction activities will not add significantly to existing traffic conditions. (See TRAFFIC AND TRANSPORTATION TABLES 2 AND 3; (AFC, p. 5.10-21; FSA, Vol. I, p. 576.) Operation of the facility will involve a total of 20 to 25 employees with between 10 and 13 of these working a standard day from 7 a.m. to 4 p.m. This will not severely impact peak-hour commute traffic.

Access to the powerplant site would be by Highway 101 and major local surface roads with the final approach branching off toward the site. Traffic from the south using Third Street would continue to the Third Street/Cargo Way/Amador Street intersection, turning east along Amador Street to the site. Traffic from the north, and truck traffic which is heavier and restricted on Third Street, would continue south on Third Street, to the Third Street/Cargo Way/Amador Street intersection and east along Amador Street to the site. Traffic from the west would use Oakdale Avenue either to Phelps Street to Jerrold Avenue to Third Street to the Third/Cargo/Amador intersection, or continue on Oakdale to Third turning north on Third to the Third/Cargo/Amador intersection and into the site. Ingress and egress along these routes is shown in TRAFFIC AND TRANSPORTATION FIGURES 2 AND 3. (FSA, Vol. I, p. 551.)

# TRAFFIC AND TRANSPORTATION TABLE 2

# Level of Service Interpretation for Unsignalized Intersections

Level of Service	Expected Delay	Reserved Capacity (Vehicles/Hour)
Α	Little or no delay	≥ 400
B	Short traffic delays	300-399
С	Average traffic delays	200-299
D	Long traffic delays	100-199
E	Very long traffic delays	0-99
F	Extreme delays potentially affecting other traffic movements in the intersection	≤ 0

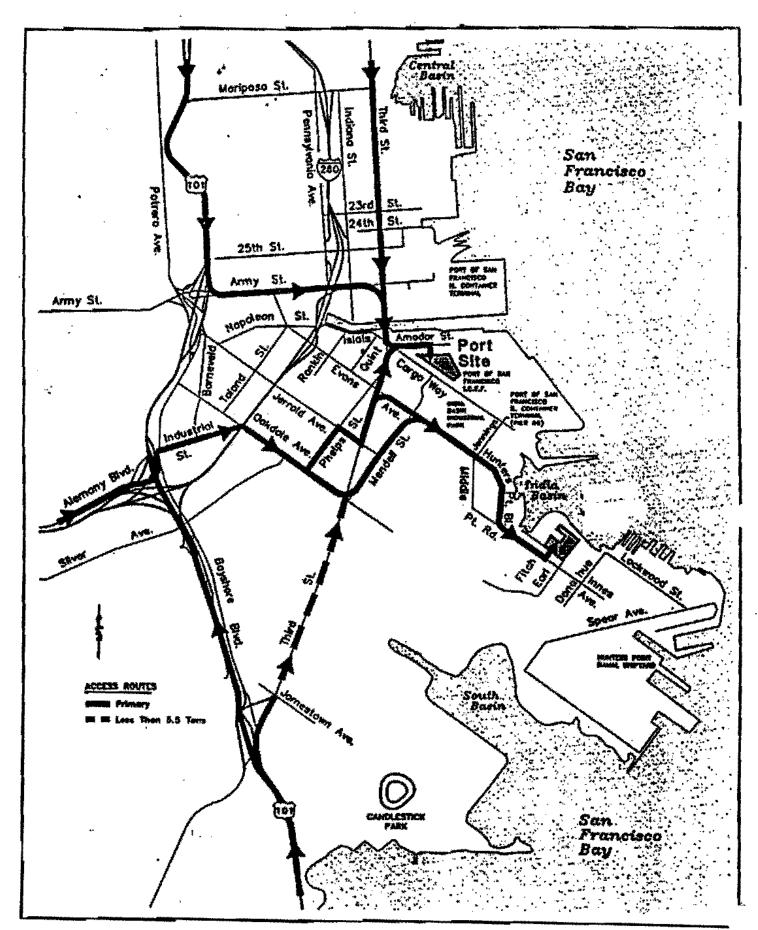
(Source: AFC, Table 5.10-4; Transportation Research Board, 1985.)

# TRAFFIC AND TRANSPORTATION TABLE 3

# Peak Hour Levels of Service

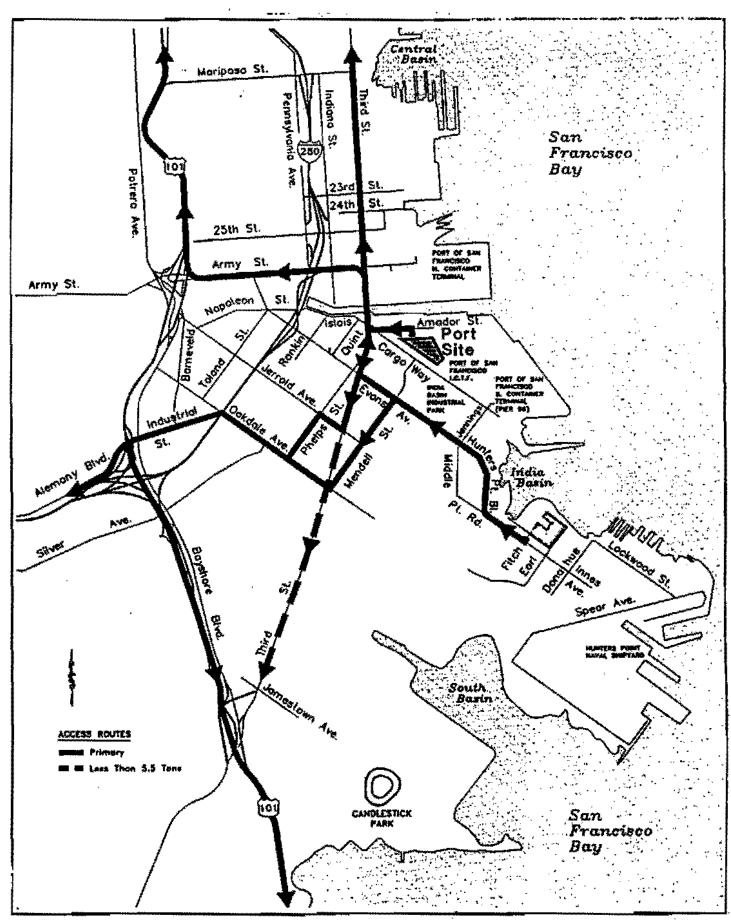
	EXISTING C	ONDITIONS		NS DURING EUCTION	CONDITIONS I NORMAL OPER OF FACIL	ATIONS
ANALYSIS INTERSECTION	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Army Street/Third Street	F	F	F	F	F	F
Army Street/Evans Avenue	E (0.965 v/c)	F	E (0.965 v/c)	F	E (0.965 v/c)	F
Evans/Napoleon/Toland	<b>1</b>	<b>.</b>	F	F	F	F
Oakdale Avenue/Industrial Street	-	A (0.500 v/c)	-	A (0.515 v/c)	•	A (0.504 v/c)
Bayshore Boulevard/Industrial Street	100	C (0.751 v/e)	-	C (0.758 v/c)		C (0.753 v/c)

v/c = volume to capacity ratio. (Source: AFC, pp. 5.10-37, 5.10-38.)



(Source: AFC, Figure 5.10-3.)

TRAFFIC AND TRANSPORTATION FIGURE 2
Inbound Access Routes



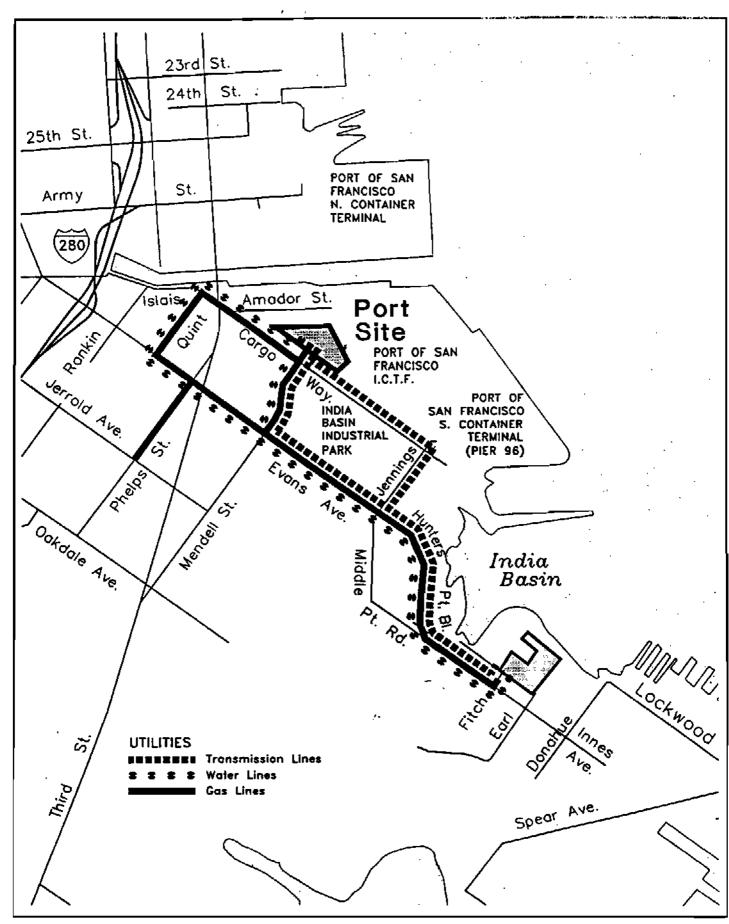
(Source: AFC, Figure 5.10-4.)

TRAFFIC AND TRANSPORTATION FIGURE 3
Outbound Egress Routes

The underground electric transmission line from the powerplant site has three alternative routes. One would follow Cargo Way to the southeast to Jennings Street, then turn to the southwest to Evans Avenue/Hunters Point Boulevard, then turn to the southeast and into the substation at the PG&E powerplant. A second route would run to the southeast on Port of San Francisco property to Jennings Street and then follow the same route as above. The third route would run from the site a short distance to the northwest on Cargo Way, turn to the southwest along Mendell Street to Evans Avenue, then turn to the southeast along Evans Avenue to Hunters Point Boulevard and into the substation.

Two alternative routes are possible for the natural gas supply from the PG&E system to the site, both originating at the corner of Phelps Street and Evans Avenue. The first would follow Evans Avenue southeast to Mendell Street, turn to the northeast along Mendell Street to Cargo Way, and cross Cargo Way into the site. The second would run northwest along Evans Avenue to Quint Street, turn to the northeast along Quint Street to Cargo Way, then turn to the southeast along Cargo Way and into the site. Natural gas from the Mojave system would originate at a metering station on Cargo Way adjacent to the site and would have a short supply line into the site.

Two possible routes might be used for the water pipeline to the site. The water supply line would originate at the Southeast Water Pollution Control Plant (WPCP) on Phelps Street, run to the northeast to Evans Avenue, turn to the southeast along Evans Avenue to Mendell Street, turn to the northeast in Mendell Street to Cargo Way, and cross Cargo Way into the site. The return lines would reverse this route. The second route would originate at the Southeast WPCP on Phelps Street, run to the northeast to Evans Avenue, turn to the northwest in Evans Avenue to Quint Street, turn to the northeast in Quint Street to Cargo Way, and finally turn to the southeast on Cargo Way to the site. The return lines would reverse this route. The routes for the electric transmission, water supply and gas supply lines are shown in TRAFFIC AND TRANSPORTATION FIGURE 4. The streets affected by the various possible steam pipeline routes are shown in TRAFFIC AND TRANSPORTATION FIGURE 5.



(Source: AFC, Figure 5.10-9.)

TRAFFIC AND TRANSPORTATION FIGURE 4
Roadways Affected by Utility Construction

# TRAFFIC AND TRANSPORTATION FIGURE 5 Steam Pipeline Corridor

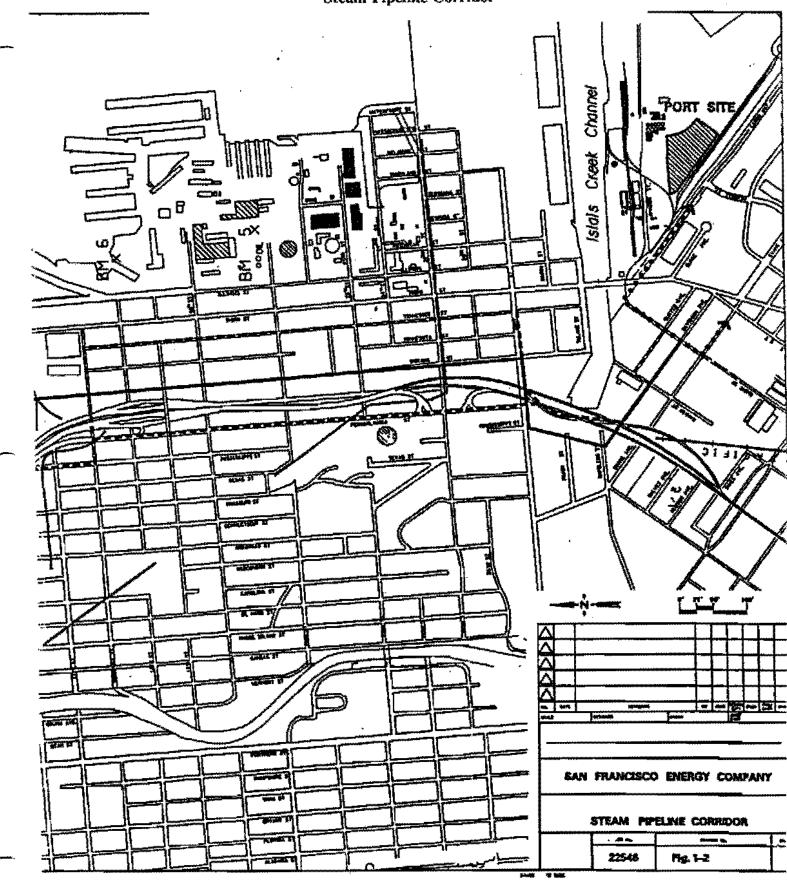
### LEGEND:

STEAM PIPEUNE ROUTE
---- ALTERNATIVE STEAM PIPEUNE ROUTE
---- UTILITY CORPOOR DESCRIBED IN AFG



(Source: AFC, Steam Pipeline Assessment, 1/20/95.)

# TRAFFIC AND TRANSPORTATION FIGURE 5 (CONTINUED) Steam Pipeline Corridor



(Source: AFC, Figure 5.10-9.)

# TRAFFIC AND TRANSPORTATION TABLE 4

# **Hazardous Materials Requirements and Traffic Volumes**

Hazardous Materials (Consumable ) Received at Site					
CHEMICAL	CONSUMPTION	ON SITE STORAGE	FREQUENCY OF SUPPLY		
Aqueous Ammonia 25% Solution	1,000 gallons/day	15,000 gallons	15,000 gallons/month		
Sodium Hydroxide	53-gallons/day	6;000-gallons	1,500 gallons/month		
Sulfurie-Acid	100 gallons/day	12,000 gallons	3,000 gallons/month		
Sodium Hypochlorite	500-gallons/day	6,000 gallons	15,000 gallons/month		

# TRAFFIC AND TRANSPORTATION TABLE 4 (CONT.)

# Hazardous Material Requirements and Traffic Volumes

CHEMICAL	NUMBER-OF RAILCARS	NUMBER OF TANKER TRUCKS
Aqueeus Ammonia, 25% Solution	1 railcar every month	4 to 5 trucks every month
Sodium Hydroxide	1 railear every 3 to 4 months	1 truck every 3 to 4 months
Sulfuric Acid	1 railear every 3 to 4	1 truck every 2 months
Sodium-Hypochlorite	1 railcar every month	2 to 3 trucks every month

# TRAFFIC AND TRANSPORTATION TABLE 4 (CONT.) Hazardous Materials Requirements and Traffic Volumes

CHEMICAL	QUANTITY-PER DELIVERY	TYPE OF DELIVERY	NUMBER OF DELIVERIES ANNUALLY
Cooling Tower Scale Inhibitor	400 gallons	Tanker or Tote Bin	ş
Sodium Hypochlorite	5,000 gallons	Tanker	35
Sulfurie Acid	6,000 gallons	<del>Tanker</del>	6
Boiler-Chemicals Trisodiumphosphate and Disodiumphosphate	1,000 pounds	Barrels or Bags	12
Amine for Ph Control	150 gallons	Tote-Bin	<del>12</del>
Bearing Circase	1-case of 24 tubes	Cases	1
Lube Oil	100 gallons (32 wt.)	Barrèls or Cars	4
Water Wash Scap	450	Barreio	<del>1</del>
Ammonia	8,000 gallons	Tanker	50

# TRAFFIC AND TRANSPORTATION TABLE 4 (CONT.) Hazardous Material Requirements and Traffic Volumes

Hazardous Materials Shipped Off Site				
TYPE-OF-MATERIAL	QUANTITY	RATE-OF SHIPMENT	NUMBER OF SHIPMENTS PER YEAR	
Liquid Oily Waste	1-2-Drume*	Every 3 Months	4	
Solid-Oily Waste	2-Drums	Every 3 Months	4	
Cooling Tower Sludge	8 10 Drums	Every 2 Years	1 (Every Alternative Year)	
Water Treatment System Sludge	2-Drums	Every 3 Months	4	

(Source: FSA, Vol. 1, p. 382; AFC, Tables 5.10-12 and 5.10-12 and SFEC 1994e, Data Response.)

-- 1-DRUM -- 55 Gallon

Trenching activities necessary to build the various underground utility transmission lines are expected to proceed at 70 feet per day for each utility in a trench with tie-ins requiring one week of street disturbance. SFEC has stated that no more than 500 feet of roadway and one intersection will be under construction at any one time. Where possible, the utilities will be installed in common excavations. (AFC, p. 5.10-28.) Pedestrian traffic as well as public transit routes will be disrupted during trenching operations.

Construction excavation for the steam pipeline will involve trucks hauling spoils material at a rate of fewer than two truck trips per hour. Trenching for the steam pipeline will proceed at a similar rate to that of the utility pipelines. TRAFFIC AND TRANSPORTATION FIGURE 5 shows the streets (and alternatives) where traffic flows will be affected. The construction would require a 14-foot width including a 3-foot width for the trench and an adjacent 11-foot width for equipment, truck movements and employees. Generally, impacts on narrow, two-lane roadways would result in a LOS at level P since one travel lane will be temporarily used for pipeline construction. At locations where the roadway is wide enough to accommodate pipeline construction as well as two travel lanes, the impacts would be reduced

Impacts during construction would include interrupted access to adjacent driveways for 2-4 hours. Public transit lines would be subject to potential service interruptions during construction as well. Parking disruption would depend on local conditions. In some cases all parking on one side of the street would temporarily be eliminated. In other locations perpendicular parking spaces may be converted to parallel spaces. Based on the assumed rate of construction, parking along the pipeline routes would be disrupted for an average of three working days.

# 3. Summary of the Evidence and Proposed Mitigation.

The Commission must determine whether the project can be constructed and operated in a manner which will not impose a significant impact upon existing traffic conditions and transportation systems.

In order to mitigate impacts to traffic and transportation during construction, SFEC proposed a number of measures which are summarized below:

• SFEC will prepare a Transportation Management Plan to detail specific roadway construction information; haul routes; specific data on utility alignments within each street, as determined during the design phase; prohibition of truck traffic during a.m. and p.m. peak traffic periods; signing for disruptions; and public notification identifying location, scheduling, and duration of construction spread.

This management plan will also include necessary Traffic Control Plans for specific roadways and adjacent neighborhoods that may be affected by construction and, if possible and economical, the management plan will provide for barge access and railroad access for heavy equipment and other materials to reduce area-wide traffic impacts.

- SFEC will institute a car/van pooling program during construction of the facility which includes features such as:
  - Organize employee car pools and van pools.
  - Schedule employee arrivals and departures during off-peak times, before 7:00 a.m., between 9:00 a.m. and 4:00 p.m. and after 6:00 p.m. in the evening.
  - Provide premium parking places to encourage car pooling and van pooling for construction employees.

SFEC will transport all hazardous materials during both construction and operation in conformance with federal and state regulations governing the transportation of such materials by contractors licensed to transport hazardous materials. The amount of hazardous materials used at the project and the frequency of hazardous delivery trips is detailed in TRAFFIC AND TRANSPORTATION TABLE 4. (FSA, Vol. I, p. 582.)

# TRAFFIC AND TRANSPORTATION TABLE 4 Hazardous Materials Requirements and Traffic Volumes

Hazardous Materials (Consumable ) Received at Site				
CHEMICAL	CONSUMPTION	ON-SITE STORAGE	FREQUENCY OF SUPPLY	
Aqueous Ammonia 25% Solution	1,000 gallons/day	15,000 gallons	15,000 gallons/month	
Sodium Hydroxide	53 gallons/day	6,000 gallons	1,500 gallons/month	
Sulfuric Acid	100 galions/day	12,000 gallons	3,000 gallons/month	
Sodium Hypochlorite	500 gallons/day	6,000 gallons	15,000 gallons/month	

# TRAFFIC AND TRANSPORTATION TABLE 4 (CONT.) Hazardous Material Requirements and Traffic Volumes

CHEMICAL	NUMBER OF RAILCARS	NUMBER OF TANKER TRUCKS
Aqueous Ammonia, 25% Solution	1 railcar every month	4 to 5 trucks every month
Sodium Hydroxide	1 railcar every 3 to 4 months	1 truck every 3 to 4 months
Sulfuric Acid	1 railcar every 3 to 4 months	1 truck every 2 months
Sodium Hypochlorite	1 railcar every month	2 to 3 trucks every month

# TRAFFIC AND TRANSPORTATION TABLE 4 (CONT.) Hazardous Materials Requirements and Traffic Volumes

CHEMICAL	QUANTITY PER DELIVERY	TYPE OF DELIVERY	NUMBER OF DELIVERIES ANNUALLY
Cooling Tower Scale Inhibitor	400 gallons	Tanker or Tote Bin	5
Sodium Hypochlorite	5,000 gallons	Tanker	35
Sulfuric Acid	6,000 gallons	Tanker	6
Boiler Chemicals Trisodiumphosphate and Disodiumphosphate	1,000 pounds	Barrels or Bags	12
Amine for Ph Control	150 gallons	Tote Bin	12
Bearing Grease	1 case of 24 tubes	Cases	1
Lube Oil	100 gallons (32 wt.)	Barrels or Cans	4
Water Wash Soap	450	Barrels	1
Ammonia	8,000 gallons	Tanker	50

# TRAFFIC AND TRANSPORTATION TABLE 4 (CONT.) Hazardous Material Requirements and Traffic Volumes

Hazardous Materials Shipped Off-Site									
TYPE OF MATERIAL	QUANTITY	RATE OF SHIPMENT	NUMBER OF SHIPMENTS PER YEAR 4						
Liquid Oily Waste	1-2 Drums*	Every 3 Months							
Solid Oily Waste	2 Drums	Every 3 Months							
Cooling Tower Sludge	8-10 Drums	Every 2 Years	1 (Every Alternative Year)						
Water Treatment System Sludge	2 Drums	Every 3 Months	4						

(Source: FSA, Vol. I, p. 582; AFC, Tables 5.10-12 and 5.10-13 and SFEC 1994c, Data Response.)

1 DRUM = 55 Gallon

In order to mitigate potential transportation and parking impacts during construction of the transmission line as well as the water, natural gas supply, and steam lines, SFEC proposed the following measures:

- Whenever feasible, on roadways where trenching occurs within the roadway right-ofway, one travel lane will be left open in each direction.
- Construction work on major roadways and through major signalized intersections will be conducted during off-peak periods.
- Construction trenches will be protected with portable Jersey Barriers and cyclone or wooden fencing.
- Private driveways located within construction areas will be kept open to maintain access to the maximum extent feasible.
- All city fire, police, and paramedic departments will be notified regarding the schedule and duration of construction activities. Alternative routes will be identified that may be used to avoid construction areas. Access for emergency vehicles will be provided to all properties adjacent to the construction site at all times.
- To the extent possible, existing Muni and Golden Gate Transit bus routing and bus stop locations will be maintained during construction.
- At the Cargo Way/Third Street and Evans Avenue/Third Street intersection, existing turn lanes and travel lanes within the intersection will be maintained during peak hours. No construction will be allowed at the intersection during events at Candlestick Park.
- At the Cargo Way/Jennings Street intersection, existing turn lanes and travel lanes within
  the intersection will be maintained during peak and off-peak hours. No construction will
  be allowed at the intersection while major truck/container activities occur at Pier 94
  and/or at Pier 96. Construction will be restricted to off-peak hours of the Port terminal
  facility whenever possible.
- Trucks over 5.5 tons will be restricted from Third Street from Jamestown Avenue to Jerrold Avenue, in accordance with City and County of San Francisco Ordinance 500-74. (FSA, Vol. I, p. 591.)

The Commission sStaff agreed with the mitigation measures proposed by SFEC and recommended that some additional measures be required. These included provisions for

oversized loads, designation of heavy truck routes, repaving of city streets where impacted, advance notice to homeowners of temporarily blocked driveways, consultation with San Francisco Muni, halting construction at Third Street intersections on days when events are scheduled at Candlestick Park, and using steel plates over trenches to maintain traffic flow on Army Street and on 7th Street. (FSA, Vol. I, p. 591-592.)

No other party offered testimony on this topic.

### 4. Commission Discussion.

The Commission is satisfied that SFEC and the Staff have adequately examined the potential impacts of the project and together proposed a reasonable set of mitigation measures and Conditions of Certification which, if adhered to, will prevent the project from imposing any significant impacts upon traffic and transportation in the area. Furthermore, by following these Conditions, the project will comply with all laws ordinances, regulations, and standards which apply to construction and operation of this facility.

The cumulative impacts of the project on traffic and transportation are difficult to determine at this time. There are a number of projects under discussion that are located in the project area. These include the San Francisco Executive Park (near Gandlestick Park) and re-use of the Hunters Point Naval Shipyard. However, there is no evidence that any of these projects would be under construction during the SFEC project's peak construction period which is scheduled for 1996. Once the project is operating, all major intersections would remain at Level of Service (LOS) "F" with or without the project. Roadway segments along Innes Avenue, Hunters Point Boulevard, and Evans Avenue, from Jennings Street to Phelps Street, would remain at LOS "D" or better with or without the project. Similarly, Cargo Way, Mendell Street, Jennings Street, and Amador Street will function at acceptable levels of service with or without the project. (Please refer back to TRAFFIC AND TRANSPORTATION TABLES 2 AND 3; FSA, Vol. I, p. 589.)

Construction for the water, gas and steam pipelines associated with the project will create burdens on local traffic, public transportation and parking. However, these impacts are temporary and will not exist after the completion of construction activities. Furthermore, the adopted mitigation measures will reduce construction impacts to the extent possible.

# FINDINGS AND CONCLUSIONS

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

- 1. The construction of the San Francisco Energy Project, including the associated water, gas, and steam pipelines, will temporarily increase vehicle traffic and roadway congestion in the project area.
- 2. During project operation, transportation Levels of Service will be the same with or without the project.
- 3. The cumulative impacts of project construction depend on the construction schedules of several local projects which are still in the planning stage. The evidence of record does not establish that these other planned projects will be constructed within the time frame likely for construction of the proposed project.
- 4. Construction of the proposed project will not cause a long-term decrease in the Level of Service currently experienced on roads and transportation facilities in the project area.
- 5. Project construction, including that of the associated gas, steam, and water pipelines, will cause short-term disruptions to the area's traffic and transportation system.
- 6. The mitigation measures provided in the Conditions of Certification are adequate and appropriate to reduce the traffic impacts of the project including those impacts associated with the water, gas, and steam pipelines; and with their implementation the construction and operation of the project will not create a significant adverse traffic impact.
- 7. Transportation of hazardous materials will occur on a specifically designated haul routes, and in accordance with applicable law.
- 8. The project will comply with applicable laws, ordinances, regulations, and standards pertaining to traffic and transportation contained in Appendix: LORS of this Decision.

### CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall require that all federal and state regulations for the transport of hazardous materials are observed by project related haulers/shippers of hazardous materials. The project owner shall establish Army Street, Third Street, Cargo Way, Jennings Street, and Hunters Point Boulevard as the haul route for hazardous materials. All haulers/shippers of hazardous materials shall be required to use the designated routes.

<u>Verification</u>: The project owner shall maintain, in its compliance file, copies of all shipping manifests related to hazardous material shipments, and shall report in the next periodic compliance report any noncompliance with haulers/shippers using the designated haul route and any corrective measures taken to ensure future compliance.

TRANS-2 The project owner shall comply with City and County of San Francisco restrictions on obstructing traffic on public streets during project construction. The project owner shall obtain the required permit from the City and County of San Francisco.

<u>Protocol</u>: When the project owner/contractor applies for the required permit from the San Francisco Department of Parking and Traffic (pursuant to the City and County of San Francisco Traffic Code, Article 11), specific measures must be provided to address the following issues:

- Emergency access;
- Street closures;
- Temporary travel lane closures;
- Maintaining access to adjacent residential and commercial property;
- · Construction periods; and
- Removal of on-street parking.

<u>Verification</u>: In the Monthly Compliance Reports, the project owner shall notify the California Energy Commission (Commission) Compliance Project Manager (CPM) of any permits obtained during the reporting period. The project owner shall maintain copies of these permits and supporting documentation in its compliance file for a period of at least six-6 months after the start of commercial operation.

TRANS-3 The project owner shall comply with City and County of San Francisco requirements for encroachment on a public right-of-way, and obtain necessary encroachment permits pursuant to San Francisco Public Works Code section 723.2.

<u>Verification</u>: In the Monthly Compliance Reports, the project owner shall notify the Commission CPM of any encroachment permits obtained during the reporting period. The project owner shall maintain copies of these permits in its compliance file for a period of at least six months after the start of commercial operation.

TRANS-4 The project owner shall comply with City and County of San Francisco Ordinance 500-74 which restricts trucks over 5.5 tons on Third Street from Jamestown Avenue to Jerrold Avenue.

<u>Verification</u>: All project Transportation Control Plans prepared for the project shall specify haul/delivery routes which reflect this restriction.

- TRANS-5 Prior to the start of construction the project owner shall consult with the City and County of San Francisco in preparing, and submitting to the Commission CPM for approval a Transportation Control Plan (TCP) which contains the recommendations of the City and County of San Francisco and at least the following elements:
  - The TCP will detail specific roadway construction information; haul routes; specific data on utility alignments within each street, as determined during the design phase; prohibition of truck traffic during a.m. and p.m. peak commuting hours; signing for disruptions; and public notification identifying location, scheduling, and duration of construction spread. Peak commuting hours shall mean 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., with the provision that peak commuting hours will be adjusted as directed by the City and County of San Francisco to accommodate commuter traffic on individual sections of city streets.
  - The TCP will also include necessary Traffic Control Plans for specific roadways and adjacent neighborhoods that may be affected by construction. The management plan will address the specific requirements for traffic control identified for the specific alternative chosen such as construction timing for specific areas and traffic detours.
  - The TCP will recommend routes for the transport of equipment and construction materials. The plan will include specific data on utility easement alignment within each street (as determined during the design phase), construction zone, and staging area.
  - The TCP will specify barge access and railroad access for heavy equipment and other materials, if possible and economical, to reduce areawide traffic impacts.

- The TCP will schedule employee arrivals and departures during off-peak times, before 7:00 a.m., between 9:00 a.m. and 4:00 p.m. and after 6:00 p.m. in the evening.
- The TCP will provide for off-street employee parking in construction areas during peak construction.
- The TCP will specify routes for delivery of oversized loads in accordance with the California Vehicle Code section 35780.

<u>Verification</u>: At least 60 days prior to the start of construction activity, the project owner shall submit the TCP to the Commission CPM for approval.

# Prior to the start of construction, the project owner shall consult with the City and County of San Francisco and the Bayview Hunters Point Clean Environment Coalition (Coalition), and prepare and submit to the CPM for approval, a Transportation Management Plan (TMP) which contains the recommendations of the City and County of San Francisco and at least the following elements: Protocol:

- Set a goal of achieving a vehicle occupancy ratio (v.o.r.) of 1.5 occupants per vehicle.
- Establish a car/van pool program or alternative means of achieving the v.o.r. of 1.5 including the following elements:
  - Coordinate with regional transportation demand management (TDM) offices, such as Bay Area Rides, to develop TDM resources for construction employees.
  - Organize employee car pools and van pools.
  - Provide premium parking places to encourage car pooling and van pooling for construction employees.
- Establish a monitoring mechanism to regularly monitor and report whether the 1.5:1 ratio is being achieved, and a mechanism to develop and implement additional measures if the v.o.r. of 1.5:1 is not achieved.

<u>Verification</u>: Within 60 days of the start of construction activities, the project owner shall submit the TMP to the Commission CPM for approval. The project owner shall also provide a copy of the TMP to the Coalifon at this time. In the Monthly Compliance Reports, the

project owner shall report on whether the v.o.r. ratio of 1.5:1 is being achieved, the actual ratio achieved, and proposed remedies if the ratio is not being met.

# TRANS-7 The project owner shall, prior to the start of construction of the electric transmission line, water supply line, natural gas supply line, and steam pipeline, prepare and implement a Transportation Control Plan (TCP), which includes the recommendations of the City and County of San Francisco, Muni and Golden Gate Transit, and contains at least the following elements:

- Whenever feasible, on roadways where trenching occurs within the roadway right-of-way, one travel lane will be left open in each direction, delineated by temporary traffic cones/barricades. For minor collectors and neighborhood streets, one lane will be left open with signal persons to direct through traffic.
- Construction work on major roadways and through major signalized intersections will be conducted during off-peak periods (the hours outside of weekday peak commute hours or possibly only at nighttime or on weekends if necessary). Peak commuting hours shall mean 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., with the provision that peak commuting hours will be adjusted as directed by the City and County of San Francisco to accommodate commuter traffic on individual sections of city streets. Construction within an intersection will be restricted to only half of the intersection at any one time in order to maintain traffic flows.
- Construction trenches will be protected with portable Jersey Barriers and cyclone or wooden fencing.
- Private driveways located within construction areas will be kept open to maintain access to the maximum extent feasible. Advanced written notification will be provided to all homeowners/businesses affected by temporary closure/blockage of their driveways. Metal plates will be used to maintain driveway access at night and on weekends.
- All city fire, police, and paramedic departments will be notified regarding
  the schedule and duration of construction activities. Alternative routes
  will be identified that may be used to avoid construction areas. Access for
  emergency vehicles will be provided to all properties adjacent to the
  construction site at all times.
- To the extent possible, existing Muni and Golden Gate Transit bus routing and bus stop locations will be maintained during construction. If routes must be diverted to parallel streets, Muni must be consulted and

recommendations implemented which could include installation of adequate notices and signing to direct Muni patrons to the temporary routing. Bus stop locations may be temporarily relocated if approved by Muni or Golden Gate Transit.

- At the Cargo Way/Third Street intersection, existing turn lanes and travel
  lanes within the intersection will be maintained during peak hours. No
  construction will be allowed at this intersection on days when events are
  scheduled at Candlestick Park. Construction will be restricted to off-peak
  hours whenever possible. Construction will also be coordinated with the
  Port including submittal of the proposed construction schedule to the Port
  for comments and recommendations.
- At the Cargo Way/Jennings Street intersection, existing turn lanes and travel lanes within the intersection will be maintained during peak and off-peak hours. No pipeline construction will be allowed at the intersection while major truck/container activities occur at Pier 94 and/or at Pier 96. Construction will be restricted to off-peak hours of the Port terminal facility whenever possible.
- During weekday commute hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.), steel plates should be placed over trenches to allow full traffic use of Army Street (at Indiana) and 7th Street.
- An agreement with the City and County of San Francisco shall be executed regarding deliveries of project-related equipment and materials by heavy trucks. The agreement shall include provisions to specify designated heavy truck routes and to repair or replace pavement damaged by project-related heavy trucks.
- Following completion of construction, the project owner shall repave the
  impacted sections of City and County of San Francisco streets, including
  raising manhole covers as necessary, in which the water, steam, natural
  gas, and electricity transmission lines are installed. Repaving shall be
  performed in accordance with City and County of San Francisco
  Department of Public Works standards.

<u>Verification</u>: At least 60 days prior to the start of construction activities on the selected routes for the electric transmission line, water supply line, natural gas supply line and steam pipeline, the project owner shall submit the TCP to the CPM for approval. The project owner shall, in the monthly compliance reports to the CPM, report on the use of the above measures in construction of the underground lines and identify any alternative measures that were required to mitigate construction impacts to traffic and parking.

### NOISE

The following analysis: 1) identifies potential noise impacts that may result from construction and operation of the project; 2) reviews the proposed mitigation measures; and 3) determines whether implementation of the mitigation measures will ensure compliance with applicable laws, ordinances, regulations, and standards on noise levels. NOISE TABLE 1 defines the technical terms used in identifying and measuring noise impacts.

### 1. Setting.

Existing noise levels at the site are high due to constant traffic from Third Street to the west and Cargo Way to the southwest, airplane overflights from the San Francisco and Oakland airports, and heavy industrial activity in the area. Industrial noise sources in the immediate vicinity include the Darling International, Inc. animal rendering plant and the intermodal container transfer facility to the north, the sand and gravel yard to the east, and the rail shunting yard to the southwest. (FSA, Vol. II, pp. 2-3.)

Sensitive noise receptors include residences approximately 2,000 feet to the southwest, a residential area 5,000 feet to the northwest across the 1-280 freeway, San Francisco General Hospital 1.5 miles to the northwest, and a City College campus approximately 1,300 feet to the southwest. (*Ibid.*)

# 2. Potential Impacts.

It is likely that in the absence of mitigation, the construction and operation of the project could increase noise levels in the surrounding community and cause hazardous noise impacts to workers at the project site.

### NOISE TABLE 1

### FUNDAMENTAL CONCEPTS OF COMMUNITY NOISE

Noise levels can be measured in a number of ways. One common measurement, the equivalent sound level  $(L_{eq})$ , is the long-term A-weighted sound level which is equal to the level of a steady-state condition having the same energy as a time-varying noise, for a given situation and time period. (See NOISE: Table A1, below.) A day-night  $(L_{ia})$  sound level measurement is similar to  $L_{eq}$ , but has a 10 dB weighting added to the night portion of the noise because noise during night time hours is considered more annoying than the same noise during the day.

	NOISE: TABLE A1 Definition of Some Technical Terms Related to Noise				
Terms	Definitions  A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).				
Decibel, dR					
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.				
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a Sound Level Meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this testimony are A-weighted.				
L., L., & L.,	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time, respectively, during the measurement period. L <sub>20</sub> is generally taken as the background noise level.				
Equivalent Noise Level L.	The average A-weighted noise level during the Noise Level measurement . period.				
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels to levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to sound levels in the night between 10 p.m. and 7 a.m.				
Day-Night Level, L.	The Average A-Weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 p.m. and 7 a.m.				
Ambient Noise Level	The composite of noise from all sources, near and far. The normal or existing level of environmental noise at a given location.				
Intrustre Noise	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.				

(Source: FSA, Vol. II, p. 22.)

## 3. Summary of Evidence and Proposed Mitigation.

During March-May, 1994, SFEC performed a noise survey of the area near the proposed site to predict the project's potential noise effects on the surrounding community. (AFC, pp. 5.5-4 et seq., FSA, Vol. II, p. 3.) Ambient noise levels were monitored for 24 hours at five Noise Monitoring (NM) locations as shown in NOISE FIGURE 1 (next page):

NM-1: Near Amador Street at the northwest corner of the site.

NM-2: At the near boundary of a residentially-zoned area approximately

2,000 feet southwest of the site.

NM-3: At the near boundary of a residentially-zoned area approximately

5,000 feet northwest of and across the I-280 freeway from the site.

NM-7: On the roof of City Fire Station No. 25 at the corner of Third and

Islais Streets, approximately 700 feet northwest of the site. (This

site was monitored for an entire week.)

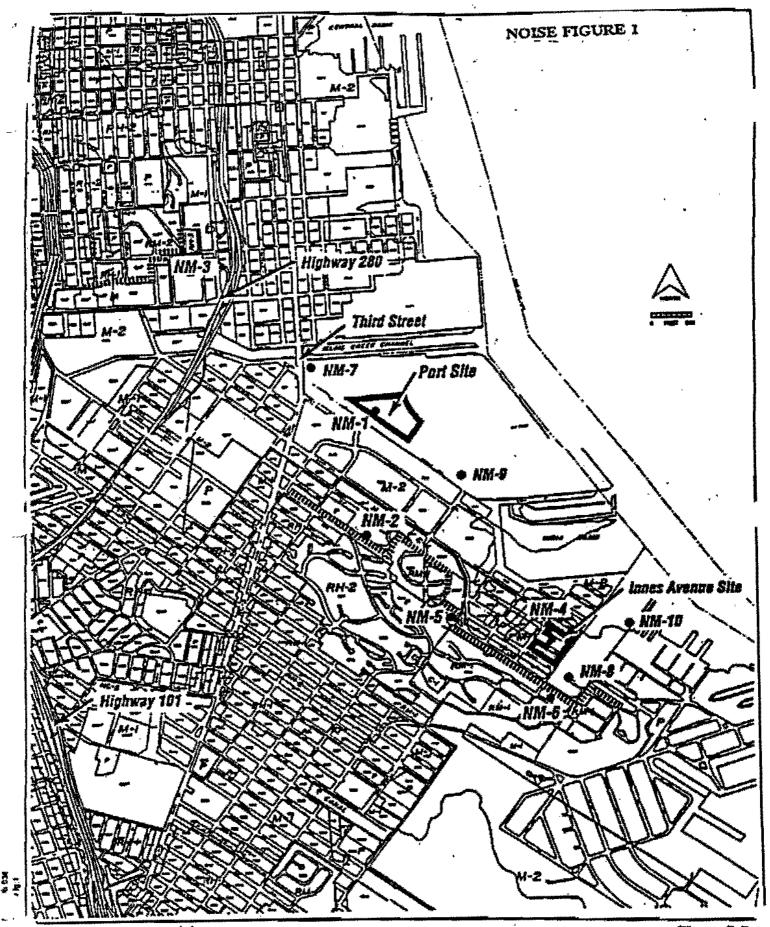
NM-9: Near the sand and gravel yard, approximately 1,500 feet east of

the site.

Results of the noise survey indicate that Community Noise Equivalent Levels (CNEL) at the five NM locations range from 60 dBA at the boundary of the residential area south of the site to 69 dBA at the residential area across the I-280 freeway from the site. (See NOISE TABLE 2.)  $L_{50}$  levels are lower, ranging from 52 dBA at the site boundary to 62 dBA at the area across the freeway. Average  $L_{90}$  levels (background noise) dropped to 59 dBA across the freeway and a low of 49 dBA at the residential area south of the site. (FSA, Vol. II, pp. 3-4.)

<sup>&</sup>lt;sup>52</sup> The adverse effects of noise include: subjective effects of annoyance and nuisance; interference with activities such as speech, sleep, and learning; and physiological effects such as anxiety or hearing loss.

Subjective reactions to new noise can be analyzed by comparing the level of existing background (ambient) noise with the level of noise from the new noise source. A change in sound level of 1 dB cannot be perceived and a 3 dB increase is considered barely noticeable. Generally, an increase of 5 dB or more must occur before any noticeable change in community response is expected. A 10 dB change is subjectively heard as an approximate doubling in loudness and would cause an adverse community response. (FSA, Vol. II, pp. 23-24.)



Source: AFC, p. 5.5-2.)

Figure 5.5-1 Map Showing Zoning and Roise Monitoring Locations RM-1 through RM-10

# NOISE TABLE 2

Table 5.5-1 Summary of Measured Noise Levels at Noise Monitoring Locations

Site	Location	24-Hour Noise Level Descriptors, dBA						
		L,	L	* L <sub>20</sub>	L,	Ļ	CNEL	
Port Site	NM-1	<b>50</b> .	522	58	56	61	61	
	NM-2	49	53	58	56	60	60	
	NM-3	59	62	65	64	69	69	
	NM-7	56	59	63	Œ	66	-66	
	NM-9	50	53	58	57	61	62	
Innes Avenue Site	NM-4 -	55	58	<b>3</b> .	60	64	65	
	NM-5	49	55	62	60	65	65	
	NM-6	49	54	58	<b>5</b> 7	62	62	
	NM-B	47	· 49	\$3	52	58	. 59	
	NM-10	50	52	56	56	61	61	

Note: L<sub>10</sub>, L<sub>20</sub>, and L<sub>20</sub> are averaged levels over a 24-hour period.

Community sound levels are regulated by San Francisco Police Code section 2909. NOISE TABLE 3 shows the maximum permitted noise levels based on zoning districts. (Id., pp. 5-6.)

NOISE TABLE 3

San Francisco Police Code - Fixed Source Noise Levels

Zoning District	Time of Day	Sound Level (dBA)
R-1-D, R-1, R-2 (One- and two-family residential)	10 p.m 7 a.m. 7 a.m 10 p.m.	50 55
R-3, R-3.5, R-4, R-5, R-3-C, R-3.5-C, R-4-C, R-5-C (Multi- family residential)	10 p.m 7 a.m. 7 a.m 10 p.m.	55 60
C-1, C-2, C-3-O, C-3-R, C-3-G (Commercial)	10 p.m 7 a.m. 7 a.m 10 p.m.	60 70
M-1 (Light industrial)	Any time	70
M-2 (Heavy industrial)*	Any time	75

<sup>\*</sup> The current zoning of the project site is M-2.

(Source: AFC, Vol. II, NOISE: TABLE 4, p. 6; San Francisco Police Code section 2909.)

San Francisco Police Code section 2907 limits noise emanations from powered construction equipment to 80 dBA at a distance of 100 feet (except impact tools such as pile drivers and jackhammers, which must be muffled as practicable), and limits the noise from helicopters used in construction to 85 dBA at 100 feet, for a maximum of two hours per day and four hours per week. Section 2908 prohibits any construction noise, between the nighttime hours of 8 p.m. to 7 a.m., which exceeds ambient noise levels by 5 dBA at the nearest property line. (FSA, Vol. II, p. 5.)

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Construction Noise. Project construction will take approximately 18-22 months. (AFC, p. 5.5-21.) Noise emissions from construction activities include:

- Site preparation noise due to engine noise from diesel-powered equipment such as buildozers, loaders and trucks;
- Foundation work noise caused by bulldozers, ready-mix trucks and other diesel-powered equipment, and pile driving;<sup>53</sup>
- Building, enclosure, and equipment erection noise due to diesel-powered cranes and pneumatically-powered torque wrenches; and
- Facility finishing and startup noise due to diesel-powered trucks and "steam blow", the loudest noise that occurs during project construction.<sup>54</sup>

SFEC proposed the following mitigation measures to minimize construction noise impacts (AFC, p. 5.5-24):

- All construction equipment will be muffled and shielded according to industry standards;
- Temporary silencers (mufflers) will be installed on steam blow piping to minimize noise;
- Noisier activities, including pile driving and steam blows, will be performed only during daytime hours; and
- A noise complaint resolution program will be instituted to address complaints from surrounding residents.

SFEC relied on noise levels produced by typical construction equipment to predict the potential impacts from project construction noise. (AFC, p. 5.5-22.) Construction noise levels will range from 53 dBA to 61 dBA (L<sub>eq</sub>) measured at the nearest sensitive receptor residences south of the site at NM-2, not including pile driving or steam blows. (See NOISE TABLE 4 below.) The high range of 61 dBA is only 5 dBA above the *average* ambient L<sub>eq</sub> value of 56 dBA measured at NM-2 and would be barely noticeable. (See NOISE TABLE 2, *ame*.)

<sup>&</sup>lt;sup>53</sup> Pile driving cannot be silenced to meet the 80 dBA limit but will be muffled to the extent practicable, and is expected to last only three weeks. (AFC, p. 5.5-21.)

<sup>&</sup>lt;sup>54</sup> After construction of the feedwater and steam systems, the steam line will be temporarily routed to the atmosphere in order to flush dirt and construction debris out of the system. This loud flushing action will last two to four minutes several times daily over a period of two or three weeks. (FSA, Vol. II, p. 7.)

#### **NOISE TABLE 4**

Table 5.5-6(a) Construction Noise Levels (L.,), Port Site

Construction Phase	South Residences  -2,000 ft dBA	Northwest Residences Ø -5,000 ft dBA	Facility Boundary  \$\Phi = 0 ft    dBA	
Site Preparation	61	54	. 80	
Foundation Work	56	49	75	
Pile Driving (muffled)	L = 63	L = 56	L = 82	
Prection	56	49	75.	
Finishing	53	46	72	
Steam Blow (unmufiled)	I = 88	L_ = 81	L = 107	

Note: Distances are from the closest side of the site boundary.

(Source: AFC, Table 5.5-6(a).)

# NOISE TABLE 5

Table 5.5-8(a) Facility Operation Noise Levels Compared With Existing Noise Levels, Port Site

Location	Reduced Facility	Existing Average L <sub>m</sub> , dBA		Composite Noise Level, dBA	
	Noise Level, dBA	Day	Night	Day	Night
Northern Boundary	74	52	572	75	75
Eastern Boundary	71	- 52	52	70	70
Southern Boundary	65	Ω	52 .	68	68
Western Boundary	Ø.	52	52	65	65
South Residences	48	52	49	53	51
Northwest Residences @-5,000 ft	40	62	56	62	56

(Source: AFC, Table 5.5-8(a).)

Noise levels at the City College campus will be approximately 64 dBA, but levels inside the building will be lower. Noise levels at more distant receptor locations, such as San Francisco General Hospital and the residences 5,000 feet northwest of the site, are predicted to range from 46 dBA to 56 dBA, considerably less than the 64 dBA ambient L<sub>eq</sub> level. (See NOISE TABLE 2, ante.) Construction noise at these locations will be practically undetectable. (FSA, Vol. II, p. 9.)

With mufflers installed, steam blows are expected to produce noise levels of approximately 73 dBA at the residences south of the site. Although such noise emissions will be disruptive, the relatively short duration of the steam blow process should not result in substantial impacts.<sup>55</sup> Noise levels due to steam blows at the City College campus will be about 74 dBA but the sound level inside the building should be reduced. At San Francisco General Hospital 1.5 miles away, the steam blow noise level will drop to 62 dBA, which coincides with the average L<sub>50</sub> value measured at the residences northwest of the site, and should be barely detectable. (FSA, Vol. II, pp. 9-10.)

Operational Noise. SFEC proposes to enclose most of the equipment within a turbinegenerator building and to add other enclosures as necessary. (FSA, Vol. II, p. 10.) To analyze potential operation noise impacts, SFEC compared the expected noise emissions during operations with existing noise levels at the NM locations described above. (See NOISE TABLE 5, ante.)

SFEC asserted that noise levels (average  $L_{50}$ ) at the most sensitive receptor residences to the south are predicted to rise only 1 dB during the daytime (from 52 dBA to 53 dBA) and 2 dB at night (from 49 dBA to 51 dBA). This is considered an undetectable increase. (FSA, Vol. II, p. 10.)

<sup>35</sup> The project owner will conduct a public notification program to alert residents prior to the start of steam blow activities.

According to Staff's testimony, however, SFEC's calculations understate the actual noise impacts expected from the project. (FSA, Vol. II, p. 10.) In NOISE TABLE 5 ante, SFEC added the expected noise levels from the plant to a figure which is the average of actual day and night L<sub>50</sub> noise levels in a residential neighborhood. Since the powerplant is expected to run day and night, noise levels must be compared to actual nighttime noise levels at nearby sensitive receptors. Applicant has agreed to keep noise levels from raising nighttime ambient noise conditions in surrounding residential neighborhoods by 5 dBA or more when compared to background noise levels. Further, in evaluating nuisance, the added noise from the project must be compared to the background, or L<sub>10</sub>, noise levels. (Ibid.) This comparison is shown in NOISE TABLE 6 below.

NOISE TABLE 6

Port Site Facility Operational Noise Levels
Compared with Existing L. Noise Levels

Noise Level (dBA)	South Residences @ 2,000'	NW-Residences @-5,000'
Existing Lowest Daily L <sub>20</sub> (AFC Fig. 5.5 2,3)	41	\$2
Facility Noise Level Contribution at Receptor (AFC Table 5.5-8(a))	48	49
Composite Level (Night) (Facility in Operation)	49	\$2
Increase in Level (Night)	8	-6

(Source: FSA, Vol. II, p. 13, NOISE, Tubic 4.)

Although the composite noise level of 49 dBA is predicted to be 1 dB below the legal maximum of 50 dBA for a residential neighborhood (S.F. Police Code, § 2909; NOISE TABLE 4), this constitutes an increase of 8 dB above the background noise environment, nearly doubling the perceived noise level. As residential use typically includes sleeping at night, this doubling of noise could constitute a significant impact upon residents and would violate the Police Code which limits increases to 5 dBA. (FSA, Vol. II, pp. 13, 15.)

Staff therefore proposed additional mitigation to limit nighttime noise increases to less than 5 dBA based on the background (L<sub>10</sub>) noise levels. (FSA, Vol. II, p. 15.) The mitigation plan would require the project owner to install additional siloneers and to conduct new community noise surveys of the surrounding residential areas before construction and again within 30 days after beginning project operations. (*Ibid.*) Staff also recommended that SFEC take measures to reduce tonal noise impacts and to control intermittent noise from steam and air vents to prevent any particular source from becoming dominant. (*Ibid.*)

Impacts to Workers. Federal regulations implementing the Occupational Safety and Health Act of 1970 (OSHA) establish maximum noise levels to which workers may be exposed without hearing protection devices. (29 C.F.R., § 1910 et seq.) (See NOISE TABLE 76 below.) OSHA regulations also require the implementation of hearing conservation and workplace noise monitoring programs. (FSA, Vol. II, p. 4.) California standards are the same as the federal requirements. (Cal. Code Regs. tit. 8, § 5095 et seq.)

NOISE TABLE 76
Worker Noise Exposure Standards

Duration of Noise (Hrs/day)	A-Weighted Noise Level (dBA)
8.0	90
6.0	92
4.0	95
3.0	<b>9</b> 7
2.0	100
1.5	102
1.0	105
0.5	110
0.25	115

(Source: FSA, Vol. II, p. 4, NOISE: Table 1.)

In conjunction with OSHA requirements, SFEC will implement additional measures by using equipment, where feasible, that is specified to emit no more than 85 dBA at a distance of three feet or by surrounding noisier equipment with sound attenuating enclosures. (AFC, p. 5.5-25.) Following startup of the facility, the project owner will perform a workplace noise survey to identify areas which exceed 85 dBA; such high-noise areas will be posted to require that workers wear hearing protection (*Ibid.*). These measures are included in the Conditions of Certification.

No other party offered evidence on this topic.

# 4. Commission Discussion.

The evidence of record demonstrates that the mitigation measures proposed by SFEC will reduce potential adverse impacts from project noise emissions. The Commission finds, however, that the additional mitigation measures proposed by Staff will ensure that impacts from noise emissions will be reduced to insignificant levels. Therefore, the mitigation measures proposed by both parties are hereby incorporated in the Conditions of Certification to ensure compliance with applicable laws, ordinances, regulations, and standards related to noise exposure.

# FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following Findings and Conclusions:

- 1. SFEC conducted a community noise survey in March-May, 1994 to predict the potential noise effects of the project on the surrounding community.
- 2. The proposed project site is characterized by high noise levels due to heavy traffic, airplane overflights, and nearby industrial facilities.
- 3. The nearest sensitive receptors include a residential neighborhood approximately 2,000 feet south of the site, a City College campus 1,300 feet to the southwest, a residential

- area approximately 5,000 feet to the northwest across the I-280 freeway, and San Francisco General Hospital 1.5 miles to northwest.
- 4. Except for pile driving and steam blow, the high range of construction noise levels are predicted to exceed the average ambient L<sub>eq</sub> value by only 5 dBA at the nearest sensitive receptors, which will be barely noticeable, and are therefore considered insignificant.
- 5. Noisy construction activities will be limited to the hours of 7 a.m. to 7 p.m. on weekdays and 10 a.m. to 7 p.m. on weekends.
- 6. Pile driving cannot be silenced to meet the maximum standard of 80 dBA but the equipment will be muffled to the extent practicable; noise from pile driving will last only three weeks. This impact is not deemed significant due to the short duration of pile driving activities.
- 7. Loud, sudden noise from steam blow will produce noise levels of approximately 73 dBA at the nearest sensitive receptors but these impacts will not be significant due to the short duration of the procedure and the restriction to daylight hours.
- 8. SFEC will conduct a public notification program to alert area residents prior to the start of steam blow activities.
- 9. Most of the project equipment will be enclosed within a turbine-generator building to muffle noise emissions during operation.
- 10. SFEC will install additional silencers on equipment and conduct new community noise surveys to ensure that increases in nighttime ambient (L<sub>20</sub>) noise levels due to project operation will be limited to less than 5 dBA at the most sensitive receptor residences.
- 11. The mitigation measures identified in Findings 9 and 10, above, ensure that increases in ambient noise levels (l<sub>so</sub>) resulting from project operation will be undetectable to the community, and the noise levels are therefore considered insignificant.
- 12. SFEC will comply with all applicable federal and state standards related to worker noise exposure and will implement measures, as feasible, to limit equipment noise emissions to 85 dBA at a distance of three feet and/or use appropriate sound attenuating enclosures for noisier equipment.
- 13. The mitigation measures proposed by SFEC and Staff ensure that impacts from noise emissions associated with project construction and operation will be insignificant, and are therefore incorporated in the Conditions of Certification below.

14. The Conditions of Certification ensure that SFEC will comply with all applicable laws, ordinances, regulations, and standards related to noise exposure as identified in APPENDIX:LORS of this Decision.

#### CONDITIONS OF CERTIFICATION

NOISE-1 Prior to the start of project construction, the project owner shall post at the project site, in a manner visible to passersby, a telephone number for use by the public to report any objectionable noise conditions associated with the construction and operation of the project. Prior to the start of project construction, the project owner shall also notify the Bureau of Engineering at the San Francisco Department of Public Works that activity at the site has commenced. This notification shall include all of the information posted at the site as well as the name and telephone number of a site representative. The sign and the posted telephone number shall be maintained until the project has been operational for at least one year.

<u>Verification</u>: 30 days prior to the start of construction, the project owner shall transmit to the California Energy Commission Compliance Project Manager (CPM) a statement that the required posting has been made, accompanied by photographic evidence. At least 10 days prior to the start of construction, the project owner shall transmit the required notification to the appropriate office of the Department of Public Works, with a copy to the CPM.

NOISE-2 Throughout project construction and operation, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.

The project owner or authorized agent shall:

- use the Noise Complaint Resolution Form (see next page for example), or functionally
  equivalent procedure acceptable to the CPM, to document and respond to each noise
  complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise related to the complaint;
- if the noise is project related, take all feasible measures to reduce the noise at its source; and
- submit a report to the CPM 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 complainant's satisfaction.

# NOISE COMPLAINT RESOLUTION FORM

# SAN FRANCISCO ENERGY COMPANY Cogeneration Project (94-AFC-1) NOISE COMPLAINT LOG NUMBER Complainant's name and address: Phone number: Date complaint received: Time complaint received: Nature of noise complaint: Definition of problem after investigation by plant personnel: Date complainant first contacted: Date: Initial noise levels at 3 feet: \_\_\_\_\_ dBA Initial noise levels at complainant's property: \_\_\_\_\_ dBA Date: Final noise levels at 3 feet: \_\_\_\_\_ dBA Date: Date: Final noise levels at complainant's property: \_\_\_\_\_ dBA 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.)

<u>Verification</u>: Within 730 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the CPM documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 730-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE-3 Prior to the start of project construction, the project owner shall submit to the CPM for review a facility construction noise control program. The construction noise control program shall be used to reduce employee exposure to high noise levels during construction and also comply with applicable state and federal OSHA standards.

<u>Verification</u>: 30 days prior to the start of project construction, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to the state and/or federal OSHA upon request.

NOISE-4 The project owner shall ensure that all noisy construction work is limited to the hours between 7 a.m. and 7 p.m. on weekdays and between 10 a.m. and 7 p.m. on weekends. Noisy construction work is that work likely to annoy nearby residents. Steam blows shall be allowed between 7 a.m. and 7 p.m. seven days a week during construction to shorten the period of noise impacts from this operation.

<u>Verification</u>: The project owner shall submit to the CPM in the first Monthly Construction Report a written verification, signed by the project construction manager or equal, that all noisy construction work will be performed only during the above specified hours.

NOISE-5 Prior to the start of construction, the project owner shall perform a 24-hour community noise survey including all residential areas surrounding the project site. The survey shall include octave band measurements to detect any existing tonal noises. Monitoring sites and timing of the survey shall be selected with the approval of the CPM.

<u>Verification</u>: At least 30 days prior to start of construction, the project owner shall submit to the CPM for approval, a plan for a community noise survey of the surrounding residential neighborhoods. Upon the CPM's approval of the plan, and prior to start of construction, the project owner shall perform the survey, presenting the results to the CPM in the first Monthly Construction Report.

NOISE-6 The project owner shall ensure that during construction, the project will comply with all applicable noise ordinances, including the requirement that nighttime noise levels at sensitive receptors be less than 5 dBA above ambient nighttime noise levels as determined in Condition NOISE-5.

<u>Verification</u>: The project owner shall submit to the CPM in each Monthly Construction Report a listing and brief description of measures taken to achieve compliance.

NOISE-7 The project owner shall equip steam blow piping with a temporary silencer which quiets the noise of steam blows to approximately 92 dBA measured at the site boundary.

<u>Verification</u>: At least 10 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.

NOISE-8 The project owner shall conduct a public notification program to alert area residents prior to the start of steam blow activities. The notification shall include a description of the purpose and nature of the steam blows, the proposed schedule, the expected sound levels, and the explanation that it is a temporary operation and not a part of normal plant operations.

<u>Verification</u>: At least 7 days prior to the start of steam blows, the project owner shall notify area residents within a one mile radius of the project site of the planned steam blow activity. The notification may be in the form of letters to the area residences, telephone calls, fliers, town meetings, publication of a notice of the event in the local newspaper(s) or other effective means. Within five days of notifying the area residents, the project owner shall send a letter to the CPM confirming that the area residents have been notified of the planned steam blow activities, including a description of the method of that notification.

NOISE-9 The project shall be designed to avoid raising nighttime noise levels in surrounding residential neighborhoods by 5 dBA or more when compared to background noise levels, as determined by the noise survey conducted under Condition NOISE-5. The project owner shall implement mitigation measures as necessary, including the use of silencers or other appropriate silencing techniques for steam vents and pressure relief valves. In addition, no single piece of equipment shall be allowed to stand out as a dominant source of noise.

Upon the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 24-hour community noise survey, utilizing as a minimum the same monitoring sites employed in the pre-project ambient noise survey, and including octave band measurements to detect tonal

noises. The survey shall also include the octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that operation of the powerplant causes noise increases in excess of those permitted under the San Francisco Police Code or in excess of 5 dBA at any sensitive receptors, additional mitigation measures shall be implemented to reduce noise to a level of compliance with the Police Code or to within 5 dBA of ambient levels at the sensitive receptor.

<u>Verification</u>: The project owner shall conduct the above described noise survey within 30 days of the project first achieving an output of 80 percent or greater of rated capacity. Within 30 days of completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise standards, and a schedule, subject to CPM approval, for implementing these measures. Within 30 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this Condition.

# NOISE-10 Th

The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within 30 days after the facility is in full operation, and shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations section 5095 et seq. and Title 29, Code of Federal Regulations section 1910 et seq. The survey results shall be used to determine the magnitude of employee noise exposure. To the extent feasible, equipment noise will be limited to emissions of 85 dBA at a distance of three feet and/or appropriate sound attenuating enclosures will be installed. 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 all applicable state and federal regulations.

<u>Verification</u>: The project owner shall submit the noise survey report to the CPM within 30 days of completion of the survey, and shall make the report available to the state and/or federal OSHA upon request.

#### ODOR

This section defines public nuisance odor, analyzes potential odor impacts from the project including potential cumulative impacts, and reviews whether the project will conform with applicable laws, ordinances, regulations, and standards related to odor control.

Energy facilities may produce various nuisance odors due to the handling, storage, and combustion of fuels, and the use of process and emissions control chemicals.<sup>56</sup> Nuisance odors from normal and upset operating conditions differ from project emissions that affect public health due to toxic air pollutants<sup>57</sup> because the levels at which nuisance odors are usually detected are below those which will produce adverse health impacts.<sup>58</sup>

The procedures used to investigate impacts from odor sources include: 1) identification and quantification of the potential odor-causing substances from the project; 2) evaluation, using air dispersion modeling, of the potential impacts of odor emissions from the project and other potential sources in combination; and, 3) appropriate mitigation measures to reduce odor emissions if the potential impacts exceed reasonable published odor detection thresholds. (FSA, Vol. I, p. 169.)

<sup>&</sup>lt;sup>56</sup> These odors are usually caused by reduced sulfur compounds, ammonia compounds, and certain organic and inorganic compounds resulting from emissions of process chemicals from stacks, leaking valves, vents, normal maintenance, and accidents. (FSA, Vol. I, p. 169.)

<sup>&</sup>lt;sup>57</sup> Public health effects from exposure to criteria and toxic air pollutants are addressed in the AIR QUALITY and PUBLIC HEALTH sections of this Decision.

Odors are characterized by detectability (or threshold), intensity, character, and desirability (hedonic tone). The perception of and reaction to odors is highly subjective and varies widely among individuals. Some individuals become readily desensitized (odor fatigue) while others become physically ill when exposed to the same odors. The relationship between the intensity or duration of exposure to odor and the magnitude of the symptoms has not been established. Even a pleasant or mild odor can become a nuisance if it occurs regularly. (FSA, Vol. I, p. 170.)

# 1. Setting.

Odorous emissions similar to those which will be produced by the SFEC project in the site vicinity are associated with the Darling International, Inc. animal rendering plant located to the east of the site; the PG&E Potrero powerplant located to the north; the PG&E Hunters Point powerplant to the southeast; and the Southeast Water Pollution Control Plant (WPCP) located approximately 2,000 feet to the west. The site is zoned Heavy Industrial and adjacent parcels are zoned Heavy and Light Industrial, and as well as Commercial, much of it maritime-related. The nearest sensitive residential receptor residential zone is approximately 2,000 feet to the south. (FSA, Vol. I, p. 171.)

Wind rose measurements from the meteorological stations at the PG&E Hunters Point powerplant and the WPCP show that the prevailing winds come from the west and are almost never calm.<sup>59</sup> Thus, it is assumed that most potential odors would be blown from the west towards the Bay, promoting the mixing and dispersion of any odors. During infrequent periods of calm winds or winds off the San Francisco Bay, there is potential for odor impacts in the project vicinity. (*Id.*, p. 172.)

## 2. Potential Impacts.

The most significant odor sources from the project are the stack and cooling tower, which emit potentially odorous substances during continuous operation. The combustion of natural gas produces some sulfur dioxide (SO<sub>2</sub>), which is emitted from the project stack. Ammonia (NH<sub>3</sub>), used to control the stack emissions of oxides of nitrogen (NO<sub>x</sub>), is also emitted from the project stack. Potentially odorous substances (ammonia and hydrogen sulfide) could also be released from the treatment of secondary effluent and the use of treated secondary effluent in the cooling tower. (FSA, Vol. I, pp. 177-178.) There are also potential odorous emissions from accidental spills of chemicals during transport and delivery. (*Ibid.*)

<sup>59</sup> See the AIR QUALITY section in this Decision for a discussion of wind patterns.

# Summary of Evidence and Proposed Mitigation.

There are two types of odor thresholds: the detection threshold, and the recognition threshold. The detection threshold is the lowest concentration at which an odorant will elicit an olfactory response from 50 percent of an evaluation group. The recognition threshold is the minimum odor concentration at which 50 percent of an evaluation group can recognize the odor. In this case, the detection threshold is more relevant because it indicates when the public will detect an odor emitted from the project. (FSA, Vol. I, p. 170.) Detection thresholds for some odorous substances commonly found at powerplants are identified in ODOR TABLE 1 below:

ODOR TABLE 1

Common Powerplant Odorous Substances and Their Thresholds

Substance	Chemical	Source	Odor Threshold, Concentration		
	formula		ý <b>ρπ³</b>	μg/m <sup>3 b</sup>	
Ammonia	NH <sub>3</sub>	emission control and sewage treatment	17	11,815	
Hydrogen sulfide	14,5	geothermal energy and sewage treatment	0.0094	13	
Sulfur dioxide	SO <sub>2</sub>	sulfur combustion	2.7	7,074	

a. Detection threshold in parts per million (ppm). Geometric mean of valid, critiqued sources (AIHA 1993).
 b. Conversion from ppm to micrograms per cubic meters (μg/m²) from Stern 1984

(Source: FSA, Vol. I, p. 171, Odor Table 1.)

<sup>&</sup>lt;sup>60</sup> The detection and recognition thresholds differ from and are usually higher than the minimum perception level. The minimum perception level occurs when an odor is perceived by the most sensitive receptor, while the odor thresholds are based on the level at which a portion (usually 50 percent) of a group can detect or recognize the odor.

at Concentration is usually measured in parts per million (ppm) or micrograms per cubic meter (ug/m²).

Staff used the air dispersion modeling<sup>62</sup> performed for criteria air pollutant emissions<sup>63</sup> to evaluate off-site odor impacts. Staff modeled sulfur dioxide, ammonia, and hydrogen sulfide emissions rates to determine the project's potential odor impacts. Staff also modeled off-site emissions from nearby facilities to calculate potential cumulative impacts. In addition, Staff calculated the probability of whether accidental spills could cause nuisance odors. (FSA, Vol. I, p. 181.)

Stack and Cooling Tower. The impacts for stack odor from sulfur dioxide and ammonia emissions are below their respective odor detection thresholds. The impacts for potential hydrogen sulfide emissions from the cooling tower are just below the odor threshold based on conservative modeling assumptions. Potential odor impacts from the worst case stack and cooling tower emissions, as predicted by the air dispersion modeling, are shown in ODOR TABLE 2.-below:

ODOR TABLE 2
Potential Odor Impacts from the Project

Emission	Modeled 1-Hour Impact (μg/m²) *	Maximum Background (µg/m³)	Total Impact (µg/m³)	TOTAL IMPACT (ppm) °	Odor Threshold, Detection (ppm)
SO <sub>2</sub> °	0.89 1	109 <sup>h</sup>	109.89	0.04	2.7
H <sub>2</sub> S *	9.2 *	NA	9.20	0.0066	.0094
NH <sub>3</sub> <sup>h</sup>	58.17 '	10.7	68.87	0.10	17

- a. Maximum modeled 1-hour impact for either site,
- b. The maximum is for PG&E Hunters Point (SF Energy 1995e).
- c. Conversion Source: Stern 1984
- d. Odor Table 1.
- e. Stack flue gas only.
- f. Maximums occur from a Port site project.
- g. Cooling tower emissions only.
- h. Cooling tower and stack flue gas emissions.
- Highest measured ammonium, 1990 1993 at the Arkansas Street monitoring station, based on a
  conservative assumption that the measured background ammonium levels are equivalent or representative
  of a background level of ammonia. (CARB 1990 1993).

(Source: FSA, Vol. I, p. 182, Odor: Table 8.)

<sup>&</sup>lt;sup>62</sup> The models are diffusion-based and do not consider decomposition and conversion of the constituents that are modeled.

W See the AIR QUALITY section in this Decision.

Water Processing. The water treatment process used to produce cooling tower make-up water from the secondary effluent may collect and concentrate gases dissolved in the effluent. However, no detectable odor emissions or impacts are expected from this process. Likewise, the process used to produce boiler feedwater make-up and purified water recycled to the WPCP is not expected to produce detectable odor or cause any impact. (FSA, Vol. I, p. 181.)

Chemical Odor. Pure natural gas is odorless and colorless but highly flammable. Disulfide or mercaptan compounds are therefore added for safety to create a detectable odor that would be recognized and controlled before a persistent leak could be smelled off-site as a nuisance. Materials that are odorized for safety purposes, such as natural gas, are exempted from the Bay Area Air Quality Management District's (Air District) Regulation 7 on Odorous Substances. (Id., p. 182.)

Other chemicals used on-site that are potentially odorous are identified in ODOR TABLE 3. Most of these chemicals are stored as liquid or in such small quantities that they should not pose a potential for nuisance odors. The handling, storage, and use of the materials are addressed in the Worker Safety Plan, the Process Safety Management Program, and the Risk Management and Prevention Program (RMPP), which are designed to procedurally and administratively reduce accidental spills of hazardous materials. These mitigation measures will reduce the potential for nuisance odors from the storage, use, and handling of odorous chemicals on-site to minimal or non-existent levels. (Ibid.)

ODOR TABLE 4 lists chemicals that emit slight odors or no odor. Sulfuric acid is included in this list as non-odorous because if there is any detectable odor, it would exceed the safe exposure limit. The handling, storage, and use of most of the materials in ODOR TABLE 4 are also addressed in the Worker Safety, the Process Safety Management, and the RMPP

<sup>\*\*</sup> See the INDUSTRIAL SAFETY AND FIRE PROTECTION and HAZARDOUS MATERIALS MANAGEMENT sections of this Decision.

programs. Accordingly, no nuisance odors are expected from the storage, use, and handling of the materials identified in ODOR TABLE 4. (Id., pp. 182-183.)

Cumulative Impacts. Even though the project's odor impacts will be insignificant, Staff considered the project's potential cumulative impacts relative to odor emissions of facilities near the project, including the PG&E powerplants at Potrero and Hunters Point, the WPCP boiler and flare, and the rendering plant boiler. Since the project will only emit sulfur dioxide, hydrogen sulfide, and ammonia as potentially odorous materials, the cumulative modeling for nearby facilities involved only those substances. (FSA, Vol. I, p. 183.) The results of the cumulative modeling analysis are presented in ODOR TABLE 5.

ODOR: TABLE 3
Potentially Odorous Project Emissions

Chemical	Source/Use	Potential Emission/ Quantity Stored		Form	Odor Character	
Sulfur Dioxide	Stack, sulfur combustion/NA	<b></b>	0.19 g/s	gaseous	metallic/sharp	
Hydrogen Sulfide	Secondary effluent treatment/NA	10 µg/m³*	0.22 g/s	gaseous	rotten eggs	
Ammonia	Stack/NO <sub>x</sub> emissions control	10 р <b>р</b> т <sup>8</sup>	3.1 g/s	gascons	strong smell	
	Secondary effluent treatment/NA	50 μg/m³ *	1.12 g/s	gaseous		
	Fugitive emission/SCR	15,000-gallon storage tank		liquid 2queous		
Oxygen scavenger	Fugitive emission/Feedwater oxygen scavenger	500-gallon storage tank		liquid, OPTI-MEEN	amine	
Cyclo- hexylamine	Fugitive emission/Condensate system protection	500-gallon storage tank		liquid	strong amine	
Natural Gas	Fugitive emission/combustion	Delivery via pipeline		gascous	rotten eggs, cabbage	

a. Lelacono 1994

(Source: FSA, Vol. I, Odor Table 6; AFC, Table 5.6-3 and Appendix G.)

b. SF Energy 1995a

**ODOR TABLE 4** 

# Project NON- or SLIGHTLY-Odorous Substances

Chemical	Use	Approximate Quantity Stored	Form	Odor Character
Sodium hydroxide	hoiler and waste water pH control	6,000-gallon storage tank	liquid, 50 % solution	odorless
Sulfaric acid	circulating and cooling water pH control	12,000-gallon storage tank	liquid, 93 % solution	(1)
Sodium hypochlorite	Biocide water treatment	6,000-gallons	liquid, 10 % solution	slight bleach
oxygen scavenger	Feedwater oxygen scavenger	500-gallon storage tank	liquid, COR-TROL 778P	slight
scale inhibitors	circulating water scale inhibitors	1,900-gallon storage tank	liquid, Betz 22 and Betz 40K	slight
Phosphate and metal oxide dispersant	boiler feedwater control	1,000-gallon storage tank	ink liquid	
anmonium bifluoride	cleaning HRSG	not stored/used at startup and once every 3-5 yrs.	powder	odorless
bydrated lime	wastewater treatment	10,000 pounds	pøwder	odoriess
Diatomaceous earth	water treatment	3,000 pounds	powder	odoriess
Alum	wastewater treatment	12,000-gulion storage tank	liquid, 8.5 % alum	odorless

<sup>(1)</sup> If this chemical smell can be detected, it is exceeding the exposure limit. (Source: FSA, Vol. I., Odor Table 7; AFC, Table 5.6-3 and Appendix G.)

ODOR: TABLE 5
Potential Cumulative Odor Impacts

Emission*	Cumulative Impact (μg/m³) <sup>2</sup>	Background (µg/m³)	Total Impact (µg/m³)	TOTAL IMPACT (ppm) <sup>b</sup>	Odor Threshold (ppm) <sup>s</sup>
SO <sub>2</sub>	20.9	109 4	129.9	0.04	2.7
H <sub>2</sub> S	131,2 *	NA	131.2	0.0918	0.0094
NH <sub>3</sub>	58.9	10.7 (	69.6	0.10	17

- a. These emissions were modeled using stack data from the project and nearby facilities. Maximum for either site and nearby facilities.
- b. Conversion Source: Stern 1984
- c. Source: AIHA 1993 detection threshold (AIHA 1993)
- d. The maximum is for PG&E Hunters Point (SF Energy 1995e).
- e. Maximum impacts occur on SWPCP property.
- f. Highest measured ammonium, 1990 1993 at the Arkansas Street monitoring station, based on a conservative assumption that the measured background ammonium levels are equivalent or representative of a background level of ammonia. (CARB 1990 1993).

(Source: FSA, Vol. J, pp. 183-184, Odor: Table 9.)

The total cumulative impacts, including background levels from the ambient air quality monitoring station for sulfur dioxide and ammonium, <sup>65</sup> are well below their respective odor thresholds. The cumulative modeling indicates that the combination of potential hydrogen sulfide emissions from the project cooling tower and the hydrogen sulfide from the WPCP may cause odor impacts above the odor threshold. However, these impacts occur on the WPCP property and are due to the hydrogen sulfide emissions from the WPCP. Since the project's hydrogen sulfide emissions will otherwise be negligible, the project will not contribute to any potential nuisance odors.

<sup>&</sup>lt;sup>65</sup> Staff conservatively assumed that the measured background ammonium levels are equivalent or representative of a background level of ammonia.

<u>Proposed Mitigation</u>. The use of natural gas, due to its inherently low sulfur content, will limit sulfur compound emissions impacts to well below the odor threshold. SFEC will perform annual source tests to monitor SO<sub>2</sub> emissions. Staff also recommended that SFEC record fuel use rates and turbine operating data to aid in responding to potential SO<sub>2</sub> odor complaints.

The Air District's upper limit of 10 ppm on the ammonia emissions rate from the stack will prevent off-site detection of ammonia emissions. Staff's modelinganalysis did not indicate that unmonitored stack ammonia emissions would cause an odor impact. Staff recommended, however, that the project's ammonia use rates and turbine operating data be reported to aid in responding to potential ammonia odor complaints.

The concentration of hydrogen sulfide H<sub>2</sub>S and ammonia emissions produced during secondary effluent treatment will be controlled to reduce the potential for nuisance odors. For either of the proposed secondary treatment systems, hydrogen sulfide (H<sub>2</sub>S) will be controlled through the addition of oxidizers (sodium hypochlorite, bromine, and/or hydrogen peroxide) that will convert hydrogen sulfide—it to sulfates and limit biological activity that might produce additional H<sub>2</sub>S. Therefore, the project will not cause any hydrogen sulfideH<sub>2</sub>S impacts or contribute to existing hydrogen sulfideH<sub>2</sub>S levels.

The natural gas pipeline and combustion systems are designed in accordance with current engineering standards to prevent accidental leakage.<sup>67</sup> Thus, all feasible mitigation is in place to minimize or eliminate potential nuisance odors from natural gas.

SFEC has proposed an Odor Complaint Procedure to identify and reduce or eliminate nuisance odors. (See, ODOR FIGURE 1.) In addition, the San Francisco Department of Public

<sup>66</sup> See the Condition of Certification AQ-1434 of the District's Determination of Compliance in the AIR OUALITY section of this Decision.

of See the HAZARDOUS MATERIALS section in this Decision.

Works and the Air District have viable odor complaint processes that have worked to reduce musance odors. 68

Air District Regulation 7 prohibits the discharge of substances that remain odorous beyond the facility property line after dilution with four parts odor-free air. Regulation 7 limits ammonia emissions to 5,000 ppm. Because the ammonia emissions from the selective catalytic reduction (SCR) system will be limited by the Air District's permit conditions to 10 ppm, the facility will comply with this regulation.

No other party submitted evidence on this topic.

# 4. Commission Discussion.

The present case is the first instance in which the Commission has considered potential nuisance odor as a separate topic. The evidence presented on potential nuisance odorwas uncontroverted. Potential odor impacts from stack and cooling tower emissions are below odor thresholds and will not cause adverse impacts. The water treatment and purification processes will not produce detectable odors or cause any impacts. The proposed mitigation will ensure that odor impacts are insignificant or non-existent for SO<sub>2</sub>, ammonia, and H<sub>2</sub>S emissions. Staff's recommended reporting requirements are included in the Conditions of Certification to aid in responding to odor complaints. SFEC's proposed odor complaint process ensures that the project owner will respond effectively to public concern in the event of detectable odorous emissions. These measures, in conjunction with the existing procedures available, indicate that no impacts are likely to be caused by the SFEC project.

In response to public complaints regarding nuisance odors, the City has implemented an *Odor Hot Line*, and prompted improvements to the boiler and flare at the WPCP, as well as improvements to the incinerator at the rendering plant. The *Odor Hot Line* number is (415) 557-6833. The District complaint line is 1-800-334-ODOR (6367).

# ODOR FIGURE 1 SF Energy Odor Complaint Procedures

# SF Energy Odor Complaint Procedures

Upon receipt of a complaint, a SF Energy Company staff member will be made available to either meet with the complainant or to talk with the complainant on the telephone. During this initial discussion, the staff member will make a record of the following:

the complainant's name and phone number or address;

- the description of the odor (e.g., pungent) that was (is) perceived by the complainants;
- a description of the location where the odor was (is) perceived;

date and time of the complaint; and

 a reading of the facility operating parameters taken at the time of the complaint.

# The staff member will take action to:

confirm the complaint;

identify the source(s) of odors; and

take corrective action.

After the above measures have been taken, or no later than 48 hours after the complaint is received, the staff member shall re-contact the complainant and provide the complainant with the information regarding whether SF Energy was able to confirm the odor. Additionally, any corrective and/or investigative action the SF Energy facility has taken or plans to take shall be provided to the complainant. All reasonable steps shall be taken to ensure the complainant that the SF Energy facility will be completely responsive in resolving any odor concerns the public may have.

# The operator shall document the following:

• the ability to confirm the odor complaint;

any corrective action taken to reduce or eliminate the odors; and

 any future corrective and/or investigative action to be taken to resolve the odor and/or the complainants concern.

(Source: FSA, Vol. I, p. 187, Odor Figure 1.)

## FINDINGS AND CONCLUSIONS

Based on the uncontested evidence of record, the Commission makes the following Findings and Conclusions:

- 1. Energy facilities may produce various nuisance odors due to the handling, storage, and combustion of fuels, and well as the use of process and emissions control chemicals.
- Nuisance odors from project operation differ from emissions that affect public health because nuisance odors are generally detected at lower levels than odors from toxic emissions.
- 3. The most common powerplant odor sources are emissions of sulfur dioxide (SO<sub>2</sub>), ammonia (NH<sub>3</sub>), and hydrogen sulfide (H<sub>2</sub>S) from the stack, cooling tower, and water treatment processes.
- 4. Worst case scenario modeling for the project's potential odor impacts from stack and cooling tower emissions indicate that odor from sulfur dioxide (SO<sub>2</sub>), ammonia (NH<sub>3</sub>), and hydrogen sulfide (H<sub>2</sub>S) emissions are below odor detection thresholds and are, therefore, insignificant or non-existent.
- 5. No detectable odor emissions or impacts will result from the water treatment processes used to produce cooling tower make-up water, boiler feedwater, or purified water that is recycled to the Southeast Water Treatment Control Plant.
- 6. The handling, storage, and use of chemicals on-site will be controlled by the Worker Safety Plan, Process Safety Management Program, and the Risk Management and Prevention Program to reduce or eliminate the potential for nuisance odors from accidental spills or leakage.
- 7. Natural gas is odorized to permit detection of leaks for safety purposes; in the event of leakage, it will be recognized and controlled before the odor could be smelled off-site.
- 8. The project will not contribute to any cumulative nuisance odor impacts in the site vicinity.
- 9. SFEC's Odor Complaint Procedure ensures that the project owner will respond effectively to public concern in the event of detectable odorous emissions.
- 10. Implementation of the Conditions of Certification ensures that the project will comply with all applicable laws, ordinances, regulations, and standards related to nuisance odor as identified in APPENDIX: LORS of this Decision.

#### CONDITIONS OF CERTIFICATION

ODOR-1 The project owner must maintain records of fuel usage rates, turbine loading levels, hours of operation, ammonia use rates, quantities of secondary effluent treated and used at the project site, and quantities of oxidizers (sodium hypochlorite, hydrogen peroxide or bromine) used in the treatment of the secondary effluent.

<u>Verification</u>: After the start of operation of the project, these records shall be maintained at the site and be available for two years.

ODOR-2 The project owner shall use an oxidizer (sodium hypochlorite, hydrogen peroxide or bromine) to oxidize hydrogen sulfide in secondary effluent treated for use and sale by the project.

<u>Verification</u>: The project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) the final design specifications for the oxidizer systems 60 days prior to project start-up showing how and where the oxidizers are added to all the secondary effluent treatment processes used at the project site.

ODOR-3 The project owner shall test for hydrogen sulfide in the treated secondary effluent streams quarterly for the first year after start of operation and annually thereafter.

<u>Verification</u>: The project owner shall submit the hydrogen sulfide measurement test results to the CPM within 30 days after each test.

ODOR-4 Throughout the construction and/or operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related odor complaints.

<u>Protocol</u>: Upon receipt of a complaint, the project owner shall have an employee either meet with the complainant or talk with the complainant by telephone. During this initial discussion, the employee will make a record of the following:

- the complainant's name and phone number or address;
- a description of the odor (e.g., pungent, rotten egg) that was (is) perceived by the complainant;
- a description of the location where the odor was (is) perceived;
- the date and time of the complaint; and

 a listing of the facility operating parameters taken at the time of the complaint.

Following receipt of the complaint, the employee will:

- identify the source(s) of the odor(s); and
- take corrective action.

No later than 48 hours after the complaint is received, the employee shall re-contact the complainant to provide information regarding identification of the sources of the odor and any corrective and/or investigative action the project owner has taken or plans to take.

The project owner shall file with the Bay Area Air Quality Management District and the CPM, a copy of the report containing:

- the complainant's name and phone number or address;
- a description of the odor (e.g., pungent, rotten egg) that was (is) perceived by the complainants;
- a description of the location where the odor was (is) perceived;
- the date and time of the complaint;
- a listing of the facility operating parameters taken at the time of the complaint;
- the source(s) of the odor(s);
- any corrective action taken to reduce or eliminate the odor(s);
- any future corrective and/or investigative action to be taken to resolve the odor and/or the complainant's concern; and
- documentation of re-contact by the project owner of the complainant to provide the information regarding the source of the odor, and any corrective and/or investigative action the project owner has taken or plans to take.

<u>Verification</u>: Within 30 days of receiving an odor complaint, the project owner shall file the required report with the Bay Area Air Quality Management District and the CPM. If mitigation is required to resolve the complaint, and the complaint is not resolved within the 30-day period, the project owner shall submit an updated odor complaint report when the mitigation is finally implemented.

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#### ENVIRONMENTAL JUSTICE

# 1. Introduction.

Several questions were raised in this case on the subject of "environmental justice." The environmental justice movement began in response to perceived patterns of development that disproportionately located noxious and health endangering activities in minority and/or low income communities. It is a relatively new topic in law and public policy. As such, it is still subject to somewhat varying definitions. Intervenors, in presented testimony, defined the term to mean a set of principles that promote respect for cultural and racial diversity and protection of the rights of all individuals to work in a safe, clean environment. (Direct Testimony of Henry Holmes, July 5, 1995, p.6). This definition does not conflict with the Commission's understanding of the subject. The Commission regards the goals of environmental justice to include avoiding (and in some cases counteracting) decisions or policies that result in disproportionately high pollution or health risk exposure to minorities or persons of low income. The Commission also recognizes a goal of promoting a significant measure of community self-determination in shaping future development.

Environmental justice is not one of the subjects the Commission regularly analyzes separately in evaluating an application for a power facility. Nor is the Commission here deciding that it should become one in future cases. However, the Commission has used this case as an opportunity to reflect on its process in comparison to the principles of environmental justice.

In doing so, the Commission has thoroughly reviewed the testimony of all of the parties and many of the references cited in Intervenors' expert witnesses' testimony. This review has focused the Commission on the core concerns of the environmental justice movement and led the Commission to measure its siting process against them. In simplified terms, these concerns suggest that minority communities have disproportionally suffered the negative effects of

industrialization due to the location of a disproportionately high share of polluting industries and facilities in these communities. The causal reasons generally alleged are

- Minority communities have had less political influence and have been less able to
  participate in decisionmaking processes. They have therefore been less effective in
  opposing the location of harmful activities within their bounds than have non-minority
  communities.
- Minority communities have allegedly suffered from differential standards applied by
  decisionmakers in determining whether the effects of a facility or activity were
  acceptable. It is asserted that significant health consequences that would have been
  considered unacceptable in one community are tolerated in another (minority)
  community.
- It is asserted that standards that have historically been used to find facilities or activities acceptable have falled to adequately consider both the higher typical levels of preexisting pollution in minority communities and higher sensitivities to further pollution among members of the these communities due to a variety of influences including background pollution and economic factors.

# The Commission Process.

One part of the Commission's process for evaluating a power facility Application for Certification is a determination of whether the facility will comply with all relevant laws; ordinances, regulations, and standards (LORS). These include federal and state standards related to air emissions, water quality, toxic emissions, hazardous materials bandling and disposal, waste management, and other areas. These standards are designed to protect public health and safety and apply uniformly throughout the State. The LORS compliance analysis also includes regional and local LORS. These include measures locally enacted to direct the future character of development, such as zoning ordinances and general and local area plans.

A second level of analysis focuses on identifying unpacts that a project may have on persons or the environment irrespective of any set standard. This analysis takes account of background conditions and also considers cumulative impacts that a proposed facility may cause when combined with existing and anticipated future development. The analytical process includes identification of alternatives that could avoid or diminish the potential impacts of a proposed facility and identification of mitigation measures that could lessen potentially significant impacts to a level of insignificance.

The Commission believes that an equitable evaluation of proposed projects, consistent with the principles of environmental justice, can be accomplished by combining the use of sufficiently stringent objective standards (LORS) with a site-specific impacts analysis that considers the particular conditions in the proposed site area, such as existing pollution sources. In the present case, the Commission has determined that the proposed project will comply with all LORS and, with the Conditions included in this Decision, will not have any potentially significant impacts.

# a. Process Openness and Public Access

The Commission siting process is a completely open one in which substantial efforts are made to ensure public access and participation. Workshops and hearings are publicly noticed and, when possible, are held in the communities where projects are proposed to be located. In the present case, the Commission's Public Advisor's Office engaged in a month's long outreach effort to inform the affected public. This included mailed notice to property owners and multi-language newspaper notices, as well as other efforts. The Siting Committee and Commission staff conducted forty two public hearings or meetings, of which thirty six were in San Francisco or the Bayview Hunters Point community, many in the evening.

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# b. Public Participation and Influence.

The Commission's process allows numerous opportunities for public comment throughout a case. Should persons wish to participate as a party, the process grants a broad right of intervention. Understanding of the process and its effective use is facilitated by the availability of the Office of Public Advisor.

The stage for the environmental justice debate was first set when San Francisco Energy Company (SFEC) filed its Application for Certification (AFC) for two potential sites for the proposed project. Innes Avenue was SFEC's original preferred site because private ownership of the site allowed SFEC to secure site control to comply with PG&E's bid specifications in a way which could not occur with the Port-owned site. The Innes Avenue site is located on the waterfront below an area of Hunters Point undergoing transition to a residential neighborhood. The alternative, and now preferred, Port site is a large parcel of undeveloped property within the industrially zoned Port.

Community opponents, focusing on the Innes Avenue site as another example of an unwelcome polluting industrial use disproportionately impacting a minority community, suggested that environmental justice was clearly a one sided issue—to build the powerplant would be an environmental injustice. Some opposed the powerplant at either site, while others urged the Port site as a way to avoid the impacts at the Innes Avenue site.

The Commission's regulatory process climinated the Innes Avenue site from active consideration before the beginning of formal hearings on the project. This is discussed in greater detail later in this section.

For the supporters of the Port site who see it as a harbinger of appropriate development and source of community economic benefits, environmental justice evolved into a two sided issue: the opponents' view on one side, and the supporters' view on the other—not building the powerplant would be an environmental injustice.

At the heart of this dichetomy is the question of whether this project is:

one like previous industries which have left toxic wastes in the water and ground, polluted the air, and marked the neighborhoods and the Hunters Point community as an undesirable place to live and work;

#### OR.

one which cleans up an unused site, uses state of the art pollution control, locates an industrial use in an exclusively industrial zone, commits to providing local jobs, and offers long term economic benefits to the community.

These questions accurately portray the intertwining of, and possible tension between, two very contemporary doctrines about development in communities of color and low income communities.

On the one hand, environmental justice is an emerging area of environmental law and public policy which focuses on any policy, practice or directive that, intentionally or unintentionally, differentially impacts or disadvantages individuals, groups or communities based on race or economic status. The environmental justice movement was spawned by a pattern of locating noxious and health endangering development in minority and low income communities, thereby subjecting residents to a disproportionate burden of pollution and health impacts. The early literature on environmental justice describes a range of uses from hazardous waste treatment and storage, waste incineration, chemical plants, etc., in minority and low income communities despite virtually universal community opposition to their presence.

On the other hand, there is a substantial, evolving concern in land use law and policy over "brownfielding" which means that former industrial sites located in the urban core are abandoned due to potential contamination. Since such sites are often located in or next to minority and low income communities, there emerges an urban wasteland of potentially

<sup>&</sup>quot; Associated terms are tenvironmental racism" and "environmental equity."

contaminated sites which would remain undeveloped—whether residential, commercial, or industrial—due to fears of liability for uncontrollable clean up costs. Developers seeking to avoid such liability instead turn to the "greenfields" of the suburbs or rural areas.—This reincarnation of flight from the inner city, economically driven, leads to loss of an urban tax base, loss of property value, loss of jobs, and loss of development capital in already oconomically disadvantaged communities. (See, Brownfields, Recycling Contaminated Urban Land, Land Use & Environment Forum, CEB Vol. 4, No. 3, Summer 1995).

The Commission has thoroughly reviewed the testimony of all the parties and many of the environmental justice references listed in the Intervenors' expert witnesses' testimony. The Commission has chosen to shift from the format used in most of this Decision where individual testimony has been outlined and sometimes critiqued for the following reasons:

#### FIRST:

This project is not the prototype of the facilities condemned in the environmental justice literature. This project is a natural gas fired cogeneration powerplant. In the Commission's search of the environmental justice literature, this type of project has not been the subject of ease studies because, presumably, it is wholly unlike hazardous waste and other noxious facilities which have spawned the environmental justice movement. In fact, most energy and air quality agencies regard natural gas fired combustion turbine technology to be one of the, if not the, cleanest and most efficient forms of thermal electric generation. Combustion turbine technology has never been characterized on a par with waste character or waste incinerators.

Additionally, the environmental justice literature has reflected universal minority community opposition to such facilities, arguing that site selection was based on

<sup>&</sup>lt;sup>10</sup> Energy Technology Status Report, California Energy Commission, 1992, p. 2-91. Also, Power Engineering, March 1991, p. 23.

race and/or economic status. Importantly, there is no universal public opposition to construction of the SFEC project. Rather, there is a division<sup>71</sup> of opinion within the community of Hunters Point as to whether the project is supported or opposed. In simple terms, some view it as part of a solution for the future whereas others view it as part of a continuing problem from the past.

However, as it affects this environmental justice review, the difference in technology and the presence of meaningful community support suggests that the SFEC project is not an obvious match with the kinds of facilities condemned in the environmental justice literature. Thus, the policy equities are not so sharply drawn and legal precedents are not so clearly applicable.

#### SECOND:

Environmental justice in a setting of mixed community support and opposition is a difficult issue to address, even for committed environmental justice advocates. The Committee engaged the Intervenors' principal environmental justice witness; a law school professor, in a discussion of the effect of the democratic process on environmental justice determinations. The question of whether an action is environmentally unjust is not answerable when the minority community itself is divided on a matter such as this project. This point was illustrated in the following testimony:

<u>OUFSTION</u>: "When you have one neighbor saying "yes" and the other saying "no," where do you go from there in an environmental justice setting?"

ANSWER: "... I don't know how to answer that question." (RT 256: 20-257:4.)

The Commission believes that it would be inappropriate to attempt in this proceeding to determine whether one view is more representative of the community than another as a ground for any discretionary action. Suffice it to say that there is a combination of average citizens as well as recognized community representatives on both sides of the debate.

The Commission believes that if the Intervenors' leading advocate for environmental justice cannot answer that question definitively then this case does not fit the prototype. Environmental justice standards appear to be more apparent when there is no diversity of opinion in the affected community.

### THIRD:

During the cross examination of witnesses there arose inconsistencies, which under scrutiny confirmed that this natural gas fired cogeneration project is not the prototype case arising from the fundamental environmental justice doctrine. (7/19/95 RT 242:12-23; 252:13-253:5; 257:3-13.) No purpose would be served in reciting that scrutiny in detail if it concomitantly tended to undermine any important aspects of the environmental justice movement.

### Finding the Environmental Justice Standard LORS

Merely because an answer is not manifestly clear in a divided community does not mean that the question should be ignored or that a quick answer is better than none. Under one approach, advocates could argue that any project, whether it has positive or negative impacts, is environmentally unjust simply because it is located in a minority community and not somewhere else. That view of an appropriate standard is too narrow and arbitrary for it would label all projects, the good and the bad, as environmentally unjust on the basis of only one criterion—i.e., "where" they are located.

Therefore, the Commission seeks some standard by which it can fairly evaluate, in an environmental justice context, the impacts upon a local community caused by the siting of this powerplant. To meet the requirements of due process as well as common sense, these standards should be objective. As it turns out, the Commission has addressed the issues embedded in the environmental justice arena in this and every other past powerplant siting case, albeit not under the label of "environmental justice".

The Commission believes that determining compliance with all applicable laws, ordinances, regulations, and standards (LORS) is the analytical framework for making findings on whether there will be impacts, as well as the significance of those impacts on the human and natural environments. From this, the Commission can conclude whether environmental justice or injustice will occur.

The scientific foundation of this compliance analysis of numerous environmental, health and safety, and engineering disciplines is to assess the cumulative effects of adding impacts of the proposed facility to the impacts that occur in the existing environment. This cumulative impacts analysis enables the Commission to then evaluate the question of whether there is a disproportionate burden of incompatible or less desirable activities and toxic sites on affected communities. If a significant project impact is found, the Commission is charged with a legal duty to mitigate such impact to insignificance.

One of the reasons the Commission was given consolidated licensing jurisdiction twenty years ago was to prevent a local agency from denying, based on NIMBY ism, 72 one of a multitude of essential permits thereby blocking an electricity project which was needed to meet a State wide or area energy demand. For those with concerns over such a concentration of regulatory power, however, one of the benefits of the comprehensive jurisdiction of the Commission is that all of the community issues are addressed in one forum.

LORS compliance encompasses the California Environmental Quality Act (CEQA) which identifies potential environmental and community impacts and seeks to reduce or eliminate potential impacts to levels of insignificance through appropriate project modifications and feasible mitigation measures. The project is also subject to review under the federal and state Ambient Air Quality Standards which are derived from public health protection considerations. Additionally, the Commission independently conducts public health and public safety analyses for compliance with applicable laws. Next, the design, construction, and operation of the

<sup>72 (</sup>NIMBY), Not In My Back Yard.

proposed project are subject to engineering review to assure compliance with all applicable laws. Compliance with all applicable laws and local land use plans is essential for certification of a project by the Commission. Unmitigable non-compliances, if they ever exist, cannot be ignored or excused. All reasonable and feasible mitigation and alternatives are explored and implemented. If residual significant impacts exist after this process, an applicant must pass a rigorous test to seek to "override" a non-compliance. (Pub. Resources Code, § 25525.)

The Commission is satisfied that LORS compliance, the protection of public health and safety, the evaluation of local community impacts, and the fact that the decision on all pertinent elements is reached in a process which is open and encourages public participation combine to provide what the Intervenors term an "environmental justice review". As discussed later in detail, if the review of the Innes Avenue site were considered a test run for environmental justice, LORS compliance would have eliminated the Innes Avenue site by objective standards which are indicators that the location was environmentally unjust because it would have resulted in adverse and unmitigable impacts in a neighborhood in transition from industrial to mixed residential/commercial. Moreover, LORS compliance is a multi-faceted public exercise which does not focus on any one criterion, but rather can openly, and with public input, balance the burdens and the benefits to a community as a measure of environmental justice.

#### LICENSING REVIEW IN ACTION

### Access & Participation.

From the day SFEC filed for the project, the regulatory review process has been more than merely open to the public. In addition to the traditional mailed notice to property owners and newspaper notices; the Commission's Public Advisor's Office engaged in a month's long outreach effort to inform the affected public of the proceeding, including multi-language newspaper notices. The Siting Committee and Commission staff conducted thirty five public hearings and workshops in San Francisco during the days and evenings.

The community was informed, and influenced the preparation of the *Preliminary Staff*Assessment (PSA), which was the Staff's initial effort to identify identified potential project impacts, discussed needed mitigation, and reviewed alternatives to the project. By this point, neighborhood groups were represented by lawyers and law students. Public comments at workshops then helped shape the *Final Staff Assessment* (FSA). (See, APPENDIX: Chronological History.)

As is reflected by the record, many points of view and contending assertions were received during the evidentiary hearings. The record stands as a testament to clearly reflects the very competent efforts by the Intervenors in all phases, as well as by SFEC and the Staff. All of this demonstrates that every participant in the proceeding had a meaningful opportunity to be heard and to influence the outcome of this Decision.

Opinions expressed by community residents was divided. Some expressed a belief that this proposed facility would compound problems created by prior and existing industries. Other residents believed that this facility represents the sort of development that can contribute to economic improvement and environmental remediation in the community.

### c.—Technical Experiese Representing the Affected Public

In order to custive that the ability to verify or disprove an applicant's claims regarding the potential effects of a project are not dependent on the resources available to potentially affected community members, the structure of the Commission includes a technical Staff which is an independent party in each case. This Staff, by regulation, conducts an independent analysis of the environmental consequences and technical merit of each proposed project. In its rule, the Staff represents public interests. A large portion of the Staff's analytical effort is expended to determine whether a project will have impacts on the community in which it is proposed to be located. This ensures that, in each case, applicants will face at least one other party with technical expertise who is capable of verifying or challenging any claims that the applicant makes

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## a. Standards for Determining Facility Acceptability

The Commission is confident that it has never applied a differential standard to find that significant impacts of a project are acceptable in one community where those impacts would have been found unacceptable in another. Indeed, although the Commission can tupon making certain findings) grant certification to a facility that will create a significant environmental impact, it has not done so. The Commission does not, in any respect, apply less rigorous standards to its impacts analysis for projects that are proposed in predominantly minority and/or low income communities.

The Commission also considered the actual distribution of facilities to which it has granted certification. The Commission received testimony from several witnesses who analyzed the distribution of these facilities. This information indicated that these facilities are not disproportionately located in minority communities. (See testimony of Dr. Mark Trexler, testimony of Robert Therkelsen, appendix.) The Commission finds no disparity toward minority or low income communities in either its standards or in the results of the application of those standards.

### Considering the Environmental and Community Background

#### (1) Cumulative impacts

One criticism present in the environmental justice literature is of situations where a polluting facility has been permitted based on isolated review that does not consider the combined effect of the facility added together with already existing facilities or pollution sources. This is not the case in the Commission's review of applications. The Commission requires a substantial amount of evidence to accurately determine the existing conditions surrounding a proposed site. This determination considers both existing facilities and other sources of pollution

that inight have an effect in combination with project emissions. In carrying out the requirements of the California Environmental Quality Act, the Commission always evaluates the potential for cumulative impacts. The Commission believes that its process adequately accounts for pre-existing pollution and carefully considers any potential for cumulative impacts.

## (2) Population sensitivity

Another environmental justice concern is that immority communities may have higher sensitivities to pollutants than do other communities. Several factors are suggested as contributors including economic factors that affect diet and health care. It is suggested that critecta used to evaluate facilities may not be adequate to protect the members of these allegedly more susceptible communities. The Commission has considered this question and finds that its process considers projects against adequately rigorous criteria. The standards against which proposed projects are evaluated, including the California ambient air quality standards, are considered sufficient to protect the most sensitive members of the population. These standards for exposure or emissions generally include an additional margin of safety. The Commission believes that its analysis in health-related subject areas was conducted in a sufficiently stringent manner that adequately considered the sensitivity of the nearby population.

## (3) The Innes Avenue Site: A Process Example - The Public Process Works.

When the AFC was filed, SFEC's primary site was located on Innes Avenue. The Port site was its alternate. The Innes Avenue site was located on the south side of India Basin on earthen fill. That is where the similarity with the Port site ends. The Innes Avenue site is located less than 1/2 mile below newly developed and existing hillside residences. The fill site is not part of the Port, but is part of a smaller scale, light-industrial and commercial waterfront. Adjoining the site on the Bay-side is a planned public park.

At the initial public informational hearings to receive citizen comments about the proposed project (October 11, 1994), there was almost universal opposition to the Innes Avenue

site, not only from nearby residents on Morgan Heights, but also Hill View and other neighboring communities.

Between September 1994 and mid-April 1995, the Staff conducted a series of public workshops in the community to assist in the development of the environmental and community impacts review. In its April 14, 1995, PSA, the Staff provided its preliminary view as to the proposed project's compliance with applicable laws, its potential to create significant adverse impacts, and the feasibility of mitigation or alternatives to reduce or eliminate those impacts. The Staff found concluded that the Innes Avenue site created significant adverse land use, visual, and socioeconomic impacts which could not be mitigated.

Specifically, Staff determined that the Innes Avenue site would not comply with the Draft South Bayshore Plan and Municipal Planning Code, and Master Plan because it would exacerbate a conflict between residential and industrial land uses. Also, the height of the structures exceeded applicable limitations. For some, the project would literally be within a stone's throw of their living room windows or porches.

In short, construction of the proposed project at the Innes Avenue site would have perpetuated conflicting industrial versus residential land uses. It would have halted any possible transition of this part of the community to the waterfront commercial and maritime uses which complement the residential character of the hillsides. On those grounds, Staff made a preliminary recommendation that the Innes Avenue site should not be certified.<sup>73</sup>

This review considered not only potential physical effects of the development, but also its consistency with adopted community planning goals. The elimination of this site exemplifies the way in which the Commission's process recognizes and incorporates local community plans.

The Staff's review of the Innes Avenue site would have proceeded to its Final Staff Assessment, issued June 16, 1995, if the Committee had not issued to SFEC an ORDER TO SHOW CAUSE why the regulatory review of the Innes Avenue site should not be suspended indefinitely. In response to the ORDER TO SHOW CAUSE, SFEC withdrew the Innes Avenue site from active regulatory review.

The Commission's comprehensive LORS review goes to the heart of the environmental justice issue. Moreover, the Commission's process ended consideration of the Innes Avenue site, a proposed project site which would have created burdens for the community disproportionate to any benefits. The Commission's process, therefore, captures the tenots of environmental justice.

On the other hand, what did the LORS review show as to the remaining Port site? T By comparison, the Port site is isolated on property with an industrial character. There are no land use conflicts, the property is zoned for industrial use, and is not part of or immediately adjacent to residential developments. Further, there are no current government plans to transition areas surrounding the site to uses compatible with residential uses. The heights of the powerplant structures are within permissible limits. Views of the facility by residents will be from a distance. The burdens on the community surrounding the Port site, if any, are far less severe than the burdens on those surrounding the Innes Avenue.

## (4) Project Impacts Mitigated to Insignificance

In formulating this Decision, the Commission reviewed every potential environmental impact considered pursuant to CEQA and concluded either the project would not cause a significant impact or that potential impacts have been mitigated to a level of insignificance by modifications to the project or by other measures. The Staff and Intervenors have left no stone unturned in assessing not only the existence of a fatal flaw to the project, but also whether much lesser potential impacts required mitigation in order to assure insignificance identifying every potential impact and adequate mitigation measures to assure that none will be significant.

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#### ADDRESSING COMMUNITY HEALTH CONCERNS

#### Pathways.

The Commission recognizes the concerns of the public, whether supporters or opponents, about potential health impacts from the project and its addition to an already burdened community. The Commission accepts the description of Bayview Hunters Point as a community which is burdened by an industrial past which has left behind toxic contamination of ground and water and, to some degree, the residual air pollution from PG&E's existing powerplants. Bayview Hunters Point is the locale for a federal Superfund Site at the Hunter Point Naval Shipyard, a state superfund site, the waste water treatment plant, PG&E's powerplants, an animal rendering plant, and numerous other leaking or non-leaking storage tanks or disposal sites. The Intervenors have posited a linkage between these two factors and the incidence of cancer. This is premised on the environmental justice principle of harm from a disproportionate number of sources that have public health consequences.

However, the Intervenors' own evidence and a post hearing San Francisco Health Department report, state the following:

The purpose of this study is to determine if the incidence of these cancers [breast & cervical] is increased compared to San Francisco or the Bay Area <u>but cannot</u> determine if any-of the results found are related to any possible environmental exposures. (SFHD, p. 2.)

Given the limitations of this study, no conclusions can be made at the present time about the potential impact of environmental carcinogens on cancer incidence in Bayview/Hunters Point. The two cancers which were found to have elevated levels have very different risk factors and are unlikely due to a common cause. (SFHD, p. 6.)

In all four studies, 74 no associations were found with cancer or with other causes. (Ex. 23, p. 115.) (Emphasis added.)

Simply put, the causality of the cancers cannot be scientifically linked to environmental caroinogens. The Intervenors' own literature associates these cancers historically with non environmental causes. (SFIID, pp. 5-7.)

Notwithstanding, the question which still must be asked and answered is does the SFEC project exacerbate existing conditions?

Perhaps the best way to answer the question is to begin asking how the powerplant could affect any individual member of the community? There are three generally accepted "pathways" for environmentally caused health impacts: (1) inhalation, meaning breathing; (2) ingestion, meaning eating; and (3) contact, meaning touching or indirect absorption.

Two of these—ingestion and touching—are easily addressed. There will be no public access to the powerplant which would permit contact with the facility, including its machinery and on site chemical storage. The transmission-line, fuel line, water lines, and steam line will all be buried underground. The project will not discharge effluents-or chemicals to the groundwater, any public potable water source, or the Bay.

All chemicals and substances which are delivered onto the site are required to be in approved trailers and travel along approved routes at times to avoid accidents and minimize contact with the public. These chemicals will be transferred to on site storage in a manner best calculated to prevent discharges. The Commission has addressed all of these matters with Conditions of Certification so that any potential public health and safety impacts are reduced to insignificance.

<sup>&</sup>lt;sup>74</sup> Four daily-mortality studies were used to establish an association between mortality and particulate concentration: Fairley; Pope; Schwartz, Schwartz.

The remaining pathways are inhalation and indirect absorption, which refers to air quality matters. The Bay Area Air Quality Management District (BAAQMD), SFEC, and the Commission staff have all independently analyzed the potential air quality and public health impacts from emissions from the project. The federal and state Ambient Air Quality Standards defining criteria pollutant levels are enacted to protect public health. The project will comply with all of these standards, and this evidence is acknowledged and uncontroverted by Intervenors' PM<sub>10</sub> witness. (9/12/95 RT 142:13-16.)

Notwithstanding compliance with New Source Review rules, the Staff and Intervenors presented evidence of a CEQA based impact regarding the project's contribution to PM<sub>10</sub> violations. As discussed in the AIR QUALITY and PUBLIC HEALTH sections, the Commission reviewed the expected emissions of the project in the community, the annual and maximum PM<sub>10</sub> air quality setting, and the causes of winter violations. As a result, the evidence establishes that while there was a measurable impact to the community, there was no aignificant PM<sub>10</sub> impact.

In addition to reviewing criteria pollutants, the BAAQMD, SFEC and Staff independently conducted health risk assessments which confirm that there are no other emissions from the project which will cause a public health impact, including cancer. (FDOC, pp. 2, 11; FSA, Vol.I, p. 226) The Commission could not approve any project which threatened the health of the residents of Bayview Hunters Point. Again, the evidence establishes that the SFEC project does nothing to adversely impact or add significantly to the existing picture in Bayview Hunters Point.

### If Not SEEC, then What?

What would happen if the SFEC project is turned down on environmental justice or any other grounds? The No Project alternative analysis in the ALTERNATIVES section concludes that if this project is not constructed some other generation project will be necessary in order to satisfy PG&E's San Francisco Operating Criterion (SFOC) after 2001. PG&E's SFOC is not

immutable however, because economic dispatch and physical changes are not static. There is no evidence in the record to suggest any revision leading to a substantial reduction in the local generation needed to meet the reliability criterion. As it now stands, the SFOC protects only 40 percent of peak loads, which is supposed to keep vital functions operational.

If SPEC is turned down, who will provide the new generation lost when PG&E mothballs Hunters Point Units 2 and 3 due to air pollution control rules? The losing bidders in the BRPU auction are incapable of producing the licensing application and going through regulatory review in a time frame which would meet the terms of the CPUC auction.

PG&E on the other hand can return to the starting point of ER 90 and ER 92 as well as the BRPU, namely the repowering of Hunters Point Units 2 and 3. That repowering, as described in more detail in the ALTERNATIVES section, would likely entail either a single combustion turbine unit utilizing one of the existing steam turbines for 221-MW output or a larger 440 MW project using two combustion turbines and both existing steam turbines. The Commission's record of public comments contains a substantial number of complaints about PG&E's existing operations at Hunters Point and the desire to remove it so that the area can transition into a residential neighborhood. However, a possible repowering at Hunters Point powerplant might have equal or greater impacts than the SFEC project. Moreover, no known provision of the law would allow PG&E to use ratepayer money to provide the community benefits package offered by SFEC.

PG&E's other option to meet the SFOC is to retrofit Hunters Point Units 2 and 3 with relatively expensive pollution control equipment sufficient to allow continuing operations under BAAQMD's rules and the CPUC's Certificate of Public Convenience and Necessity. In all likelihood, these retrofits may not require a comprehensive public review process. The Commission's experience in such matters suggests that the retrofit would not be as environmentally clean or as efficient as the SFEC project from an air quality perspective, and would continue an environmental impact by using Bay water for once through cooling. Thus, there could be "environmental justice" concerns arising in that regard in the future.

### Similar Gircumstances, Similar Treatment.

In 1992, the Commission reviewed an AFC license for a natural gas fired cogeneration project at the C&H Sugar refinery in Crockett, Contra Costa County (92 AFC-1). The project is very similar in size and features (240 MW) to the SFEC project. It has an exhaust stack, similar emissions, and uses and stores similar chemicals for pollution control. Crockett residents are closer to the powerplant than in Bayview Hunters Point. The Crockett project was within the BAAQMD and resulted in a very similar Determination of Compliance by the BAAQMD in terms of air quality impacts and the absence of public health impacts. Neither the BAAQMD nor Staff required PM<sub>to</sub> offsets.

The Crockett project is very close to the residences of Crockett, and it engendered public concern and opposition from a segment of the community. Crockett is not a minority community, and "environmental justice" concerns per se did not arise. To assure that the benefit/burden ratio favored benefits to the community, the Crockett project included a package of community enhancement measures.

## Community Benefits Package.

SFEC has voluntarily offered a community benefits package for Bayview Hunters Point of approximately \$13 million over the life of the project. These funds are to be disbursed using a community based decisionmaking process. Prior to the evidentiary hearings, SFEC engaged in public discussions regarding the creation of this community benefits package and a community based organization to guide disbursement of funds. The Commission notes that the Draft Lease between SFEC and the Port calls for SFEC to develop and implement a community benefits program. The Community benefits program.

For a period covering Operating Period Years 1—17, Tenant shall develop and implement programs and/or projects or amendments thereto to benefit the community located in the immediate vicinity of the Facility... Tenant agrees

<sup>75</sup> The Draft Port Lease, Section 37 (pp. 85-86) provides in pertinent parts

The public discussions culminated on August 24, 1995, when SFEC entered into a Memorandum of Understanding (MOU) with the Bayview Hunters Point Clean Environment Coalition<sup>76</sup>. Pursuant to the MOU, SFEC will make annual contributions to a Community Enhancement Fund (Fund) to support programs, projects, and activities that focus on assisting the Bayview Hunters Point community residents, stimulating economic development in the community, and helping improve the quality of life for all community residents. Over the period of construction and first 17 years of the operational life of the project, SFEC will make annual contributions to the Fund, totalling \$13 million. The funds are to be disbursed using a community based decisionmaking process embodied in the Community Enhancement Fund Advisory Board.<sup>77</sup>

The Commission believes that SFEC's community benefits package provides tangible benefits directly to the community as a result of the development of the project. Such community benefits packages have been adopted in previous Commission Decisions including the Crockett Cogeneration Project (92 AFC 1) and the Sacramento Ethanol and Power Cogeneration Project (92 AFC 2). However, even though the MOU has established the Advisory Board, the Commission is concerned that those individuals and organizations that voiced concern about the project and may, therefore, be excluded from an open process to direct the use of the available funds. After all, the community benefits package should be there to enhance Bayview Hunters Point as a whole, not reward certain groups. Therefore, the Commission believes that Advisory Board membership should be open following certification and reflect the views of a cross section of the community.

to submit a budget for the plan equal to or greater than I percent of the construction cost of the Facility. Port may from time to time identify a particular program or area for Tenant to expend the annual community benefit funds, and Tenant, to the extent it agrees with such program or project, shall, to the extent that such funds are available and not otherwise committed, expend the funds accordingly.

The Bayview Hunters Point Clean Environment Coalition is an open membership organization concerned about the general welfare of the Bayview Hunters Point community.

<sup>77</sup> The MOU also creates a Community Health and Safety Advisory Committee (CHSAC) to review and advise SPEC concerning the project's health and safety programs.

In addition, the City and County of San Francisco ought to be engaged in the recognition that the SFEC benefits package is intended to be additive. The County should provide public assurances that it will not deduct funds or impose "take backs", which would otherwise be directed to Bayview Hunters Point notwithstanding the private source benefits package. No net benefit will accrue to Bayview Hunters Point if what is given with one hand is taken away by the other.

Since the SFEC community benefits package is voluntary and, by mutual bargaining, SFEC and the community have established a private organization to guide the disbursement of SFEC contributed funds, the Commission will not exercise oversight on this organization. However, the Commission's determination that the project benefits for this community outweigh the project burdens is conditioned upon the creation and equitable use of the community benefits package.

## 5. 1964 Federal Civil Rights Act: TITLE VI.

Intervenors contend that the Commission's siting program is subject to Title VI of the 1964 Federal Civil Rights Act (Title VI or Act) and that an analysis and finding of no disparate racially discriminatory violation of that Act is required for certification of this project. Intervenors claim that the evidentiary record on Title VI compliance is deficient. Intervenors argue that the Commission's LORS compliance review and its public participation process do not provide a satisfactory framework to address Title VI requirements.

### Title VI provides in pertinent part:

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, or be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. (42 U.S.C. § 2000d.)

The U.S. Department of Energy has regulations implementing Title VI. (See 10 C.F.R. §1040.13; 40 C.F.R. § 7.35). The Energy Commission receives federal trust funds, as shown in the Commission's 1993 - 1994 budget. (Ex. 3) There is no evidence that the federal funds received by the Commission are used directly or indirectly in the facility licensing review program.

The Commission believes that Intervenors are testing two theories of Title VI. The first is that Title VI must be one of the project LORS which is routinely reviewed by the Staff and the Commission. The second is that the Commission, itself, would violate Title VI by approving the project.

The Commission recognizes Title VI as a statute of general application. However, the Commission does not consider it to be directly enough related to the design, construction of operation of a power facility to fall within this Commission's mandate to determine whether a proposal will comply with applicable laws, ordinances, regulations, and standards. The Commission does not believe that approval of this application would violate Title VI.

The heart of the Commission's review process is CEQA. CEQA is essentially color-blind; but it is not impacts blind. The Commission focuses on impacts, their identification and mitigation. In twenty-years of siting history, the Commission has been able to mitigate potential impacts to insignificance, or the project has been rejected or withdrawn.

Public participation is a hallmark of the CEQA process. The Intervenors have been very active in this proceeding, attending workshops and informational hearings, and providing extensive and probative testimony, cross examination, and logal briefs. Their impact on this Decision has resulted in intense scrutiny of every issue before the Commission.

The effect of the public CEQA process is that the Commission has not needed to separately examine racially disparate impacts because it never allows a project to create significant impacts, either upon a community as a whole or a sub-group thereof. To be

measurably disparate, an impact must necessarily first rise above a level of insignificance. In the context of CEQA, there are either significant impacts or insignificant impacts. The review of impacts is essentially made against objective standards.

The Commission is confident that the CEQA analysis will disclose impacts to any affected community, no matter whether that community is defined by geography, race, or economic circumstance. If a potential significant impact can be identified, then the relevant inquiry becomes the severity of and methods available to mitigate the impact, regardless of whom or which community is adversely affected. There is no room under the regimen to value one affected segment less than another.

In this case, the land use, socioeconomic, air quality, and public health reviews, using objective facts, have found that the project will only produce insignificant impacts. The alternatives review, which included alternative sites in non-minority communities, showed that the insignificant project impacts would be common to different locations, but that in some other locations there would be other significant site impacts. For this reason, the Innes Avenue site, for example, was deleted.

Thus, the Commission does not believe that the routine inclusion of Title VI in the project LORS is appropriate. As it stands, the evidence in the record discloses that the project does not produce any significant impacts, let alone a disproportionate impact based on race.

With respect to the Intervenors' second assertion that the Commission, itself, would violate Title VI by approving the project, the Commission will limit its remarks to the following. If the question is whether the Commission is violating Title VI—an assertion the Commission strongly rejects—then the Commission should not be judging itself. No purpose is furthered by placing self serving statements in this Decision.—The record of the proceeding is more than sufficient to establish that the Commission did not, by intent or effect, base any element of its Decision to certify the project on race or any other discriminatory factor.

The Commission notes that supporters of the project within the minority community believe it represents the type of new development which will be beneficial to Bayview Hunters Point which, rather than interfering with the transition of the community, will actually benefit the community by investing there, providing a tax revenue base, creating some new jobs, and providing for a self-directed use of the economic benefits package.

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#### FINDINGS AND CONCLUSIONS

Based upon the evidence of record, the Commission makes the following Findings and Conclusions:

- 1. The topic of environmental justice is an emerging area of environmental law and public policy.
- 2. Bayview Hunters Point is a community burdened characterized in part by an industrial past which has left behind toxic contamination of ground and water and, to some degree, the residual air pollution from PG&E's existing powerplants. The record is uncontroverted that Bayview Hunters Point is the locale for a federal Superfund Site at the Hunters Point Naval Shipyard, a state superfund site, the waste water treatment plant, PG&E's powerplants, an animal rendering plant, and numerous other leaking or non-leaking storage tanks or disposal sites.
- 3. The Bayview Hunters Point community is represented in this proceeding by both supporters and opponents of the proposed project.
- 34. The proposed natural gas-fired cogeneration powerplant does not have the toxic or heavily polluting nature that characterizes is different in its nature and in its residual effects from the facilities criticized in the environmental justice literature.
- 45. The SFEC project will not cause any significant adverse impacts within the meaning of the California Environmental Quality Act.
- 56. The SFEC project will, on balance, provide net environmental, community, and economic benefits greater than any adverse effects arguably eaused by its placement in the Bayview Hunters Point community.
- This Decision on the SFEC project was formulated consistent with applicable provisions governing the Commission's energy facility planning and siting process, as established by Public Resources Code section 25500 et seq., in combination with the California Environmental Quality Act (Public Resources Code section 21000 et seq.). These statutory provisions ensure that the results achieved were conducted in an open forum in which public participation is encouraged and fostered. Moreover, these provisions also ensure that the Decision considered information concerning alternative project locations, as well as all aspects relevant to any alleged impacts of the proposed project including any discriminatory effects upon the local community associated with its location.
- 78. The compliance with the applicable, laws, ordinances, regulations, and standards, the protection of public health and safety, the evaluation of local community impacts, and

the public participation in the Commission's open siting process combine to provide an effective environmental justice review of the project consistent with the principles of environmental justice.

#### CONDITIONS OF CERTIFICATION

JUS-1 The project owner shall submit to the San Francisco Port Commission (Port) the August 24, 1995 Memorandum of Understanding (MOU) with the Bayview Hunters Point Clean Environment Coalition (Goalition) for inclusion in Port Lease 7274.02. The terms, conditions, and provisions of the MOU related to the establishment of the Community Empowerment Fund, in part, shall be used to satisfy Section 37 "Community Benefits."

<u>Verification:</u> Prior to the Port acting upon Lease 7274.02, the project owner shall submit to the CPM and Coalition evidence that the terms, conditions, and provisions of the MOU have been included in the Lease.

<u>MOTE</u>: If the Port elects not to incorporate the provisions of the MOU into the Lease, then the following alternative Conditions of Certification shall become effective:

Alt. JUS-1 — Pursuant to the August 24, 1995 Memorandum of Understanding (MOU) between the Bayview Hunters Point Clean Environment Coalition and San Francisco Energy Company (project owner), the project owner shall establish a Community Empowerment Fund (CEF) to support programs, projects, and activities that focus on empowering Community residents, stimulate economic development in the Community, and help improve the quality of life for Community residents of all ages and circumstances. During the construction and 30 years of operation of the project, the project owner shall contribute \$13 million to the CEF.

Upon the commencement of construction of the project, the project owner shall make its first annual contribution of \$250,000 to the CEF. As per the MOU, the contribution may be made in quarterly installments in January, April, July, and October as appropriate. Subsequent annual contributions shall be determined by the Port of San Francisco and the CEF Advisory Board and paid in quarterly installments as prescribed by the MOU.

<u>Verification:</u> Upon commencement of construction, the project owner shall present evidence to the CPM of each contribution in the Monthly Compliance Report following the month after each contribution is made, with a summary of such payments in the Annual Compliance Report.

JUS 2 The project owner shall provide legal assistance in an amount not to exceed \$2,000 for preparation of a charter for the CEF to receive and distribute funds.

<u>Verification</u>; Upon the establishment of the CEF, the project owner shall notify the CPM, in writing, that the CEF has been established and may receive and distribute funds.

#### **ALTERNATIVES**

#### 1. Introduction.

Section 21100(b)(4) of the California Environmental Quality Act (CEQA)<sup>78</sup> and section 1765 of the Commission's siting regulations<sup>78</sup> require an examination of alternatives to SFEC's proposal. Under these provisions, the analysis must consider alternatives to a project and a project's location that are: a) reasonable; b) feasible; c) attain the project objectives; and d) focus on reducing or eliminating the project's potential significant adverse environmental impacts. (Cal. Code Regs., tit. 14, § 15126(d) and Cal. Code Regs., tit. 20, § 1765.) In addition, the analysis is to consider the "No Project" alternative. (Cal. Code Regs., tit. 14, §15126(d).) The Commission's powerplant siting program is the certified equivalent of the Environmental Impact Report (EIR) process. (Cal. Code Regs., tit. 14, § 1525(k))

The range of alternatives is governed by the "rule of reason" which requires consideration of 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 whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. (Cal. Code Regs., tit. 14, § 15125(d)(5); see also, Residents Ad Hoc Stadium Committee v. Board of Trustees, (1979) 89 Cal.App.3d 274.) However, if the range of alternatives is defined too narrowly, the analysis may be inadequate. (City of Santee v. County of San Diego, (1989) 214 Cal.App.3d 1438.)

Feasibility is a key criterion in the evaluation of alternatives, relating to the attainment of the underlying project objectives. The CEQA Guidelines define "feasible" as, "capable of being accomplished in a successful manner within a reasonable period of time, taking into account

<sup>&</sup>lt;sup>78</sup> (Pub. Resources Code, § 21100(b)(4).)

<sup>&</sup>lt;sup>79</sup> (Cal. Code Regs., tit. 20, § 1765.)

economic, environmental, legal, social and technological factors." (Cal. Code Regs., tit. 14, § 15364.)

The agency considering a project has substantial discretion in framing its discussion of an alternative and in judging an alternative's merits. (City of Aurora v. Hunt. (1984) 749 F.2d 1457, 1467.) It also is the agency's responsibility to determine when it has enough information to make an informed decision. (Nat'l Indian Youth Council v. Andrus (1980) 501 F. Supp. 649, 671.) Furthermore, once an agency has made a decision subject to the procedural requirements of CEQA or the National Environmental Protection Act (NEPA), the only role for a reviewing court is to ensure that the agency considered the environmental consequences. (Strycker's Bay Neighborhood Council v. Karlen (1980) 444 U.S. 223 [100 S.Ct. 497, 62 L.Ed.2d pp. 427, 4331.)

The Commission's powerplant siting program is the certified equivalent of the Environmental Impact Report (EIR) process. (Cal. Code Regs., tit. 14, § 1525(k).)

## 2. Summary of the Evidence.

#### a. SFEC

SFEC presented Chapter 3 of the Application for Certification as evidence in support of its position that no reasonable alternative exists that is superior to the proposed project. In addition, SFEC offered its data responses and oral testimony regarding transmission line alternatives.

SFEC's alternatives analytical process was partly derived by its own initial search for a candidate site and is shown in a flow chart. (Ex. 9.) SFEC developed the definition of project objectives from the Commission's ER 92, the California Public Utilities Commission (CPUC), Biennial Resource Plan Update (BRPU), Pacific Gas & Electric's (PG&E) Request for Bids and San Francisco Operating Criterion (SFOC). SFEC's project objectives are:

- Add 221 MW of new generating capacity;
- Meet PG&E's SFOC, by interconnecting transmission at one of seven PG&E-specified substations at or north of the H. Martin substation;
- Be a Qualifying Facility (QF) pursuant to the federal Public Utilities Regulatory Policies Act (PURPA);
- Be on-line by June 1, 1997; and
- Achieve site control within 180 days of winning bid announcement and not use utility property. (Ex. 9.)

SFEC conducted a review of the San Francisco Peninsula for feasible sites, taking into account the location of PG&E's specified substations, the amount of available capacity at each substation, the existing transmission access to each substation, existing gas and water pipelines, potential steam users, and any known environmental fatal flaws incompatibilities that would make the site unfeasible. (7/17/95<sup>80</sup> RT 11:10-16.)

SFEC initially identified seven sites which could potentially accommodate the project: Cow Palace; City Asphalt Plant; San Francisco Thermal Ventures; San Francisco Airport; Potrero; Innes Avenue; and the Port site. After further review, SFEC concluded that 5 of these sites possessed some infeasibility which prevented them from achieving the project's objectives. (RT 12:5-11.)

Consequently, the SPEC undertook a site-specific environmental review of the Innes Avenue site and the Cargo Way Port site. (RT 12:12-14.) SFEC concluded that the two candidate sites would not cause any significant adverse environmental impacts and submitted them in the AFC. (RT 13:15-22.)

<sup>80</sup> Unless otherwise noted, all transcript references in this section are to 7/17/95 July 17, 1995.

For the purpose of the regulatory CEQA review of alternatives, SFEC also undertook a comparative review of the repowering of PG&E's Hunters Point Units 2 and 3, and concluded that the repowering would not be superior to the proposed project because it would put in place a less efficient and more costly utility infrastructure and would cause more environmental impacts from higher emission rates, once-through Bay water cooling, and greater fuel use. (RT 13:23-14:21.)

SFEC also conducted its own No Project—alternative analysis, assuming no proposed project and no PG&E repowering. It concluded that the No Project alternative would not create the economic benefits intended by the ER 90 and ER 92/BRPU process; would not meet the SFOC; and would institutionalize an inefficient and more environmentally—impacting adverse infrastructure. (RT 15:3-24.)

SFEC examined an alternate configuration of the project, using two smaller facilities producing a total of 221 MW. However, it found that two smaller projects were financially infeasible and would likely increase the total environmental impacts by occupying more total space, requiring two stacks and two buildings, and consuming more fuel. In short, a smaller, multiple facility configuration would not reduce or eliminate any potential impacts of the proposed project. (RT 16:1-8.)

Lastly, SFEC examined alternative generation technologies and non-generation alternatives, including SFEC considered commercially available technologies from such as coal, to gas, to and renewables. It concludinged that, other than gas, there were environmental or land use constraints which meant that accompanying these alternative technologies, were not superior to the proposed project. SFEC also reviewed small scale distributive generation (SSDG) and, referring to the Commission-developed *Utility Supply Option Characterizations* for ER 94, concluded that SSDG was not among the final supply options for (generation) PG&E, due mainly to cost ineffectiveness excessive costs. (9/12/95 Weatherwax/Wood, p. 37.)

Non-generation alternatives which were examined included additional demand-side management (conservation) measures and new transmission alternatives. Although Public Resources Code section 25305(c) specifically precludes consideration of additional conservation as an alternative to a specific project, SFEC nonetheless reviewed the conservation that had been estimated in ER 92.<sup>31</sup> SFEC concluded that since its bid price was so low, any marginally more costly conservation measures would be rendered less likely. (RT 16:18-23; AFC 3-132-133.)

New transmission alternatives were also reviewed. SFEC concluded that as a matter of definition, new transmission would not meet the SFOC since the criterion requires local generating facilities, not transmission facilities. In oral testimony, SFEC's witness testified that transmitting electricity over substantial distances, from either the north or south of PG&E's system, would require from 21 to 34 MW more generation from the PG&E system, with greater associated emissions and fuel use, to compensate for transmission line losses. (RT 8:4-7; Wood, p. 2.) SFEC's witness also estimated that the installation of new overhead and underground transmission plus reactive power features would cost more than \$200 million. (7/17/95 Wood, p. 5.) Additionally, there would be environmental impacts from new transmission lines up the Peninsula. Thus, the SFEC claimscentended that new transmission would not be a feasible alternative to the proposed project.

#### b. Commission Staff

To perform its Alternatives analysis, the Staff used the methodology summarized below and shown in ALTERNATIVES FIGURE 1.

<sup>&</sup>lt;sup>81</sup> ER 92 estimated that more than two-thirds of the total "need" for electricity would be met by conservation measures; and to add conservatism the CPUC allowed only 25 percent of the remaining "need" to be put to bid in the utility auctions.

## Staff's process included:

- 1. Identify the basic objectives of the project. The project objectives were based on SFEC's filings and Committee orders.
- 2. Evaluate the adverse and beneficial impacts of not constructing the project (the "No Project" alternative).
- 3. Identify and evaluate alternatives to project. The principal project alternatives examined that do not require the construction of a natural gasfired facility in San Francisco are increased energy efficiency (or demand side management), construction of alternative technologies (geothermal, wind or solar), or construction of additional transmission lines.
- 4. Identify and evaluate alternative locations or sites. The first step of the alternative site evaluation is a screening to identify potential sites assuming there were unmitigated, significant adverse impacts associated with the proposed project. The second step is a comparison of the alternative sites with the proposed project to determine if they are able to resolve any remaining unmitigated, significant adverse impacts. The third step is to review those sites which do resolve remaining unmitigated, significant adverse impacts and determine their feasibility.

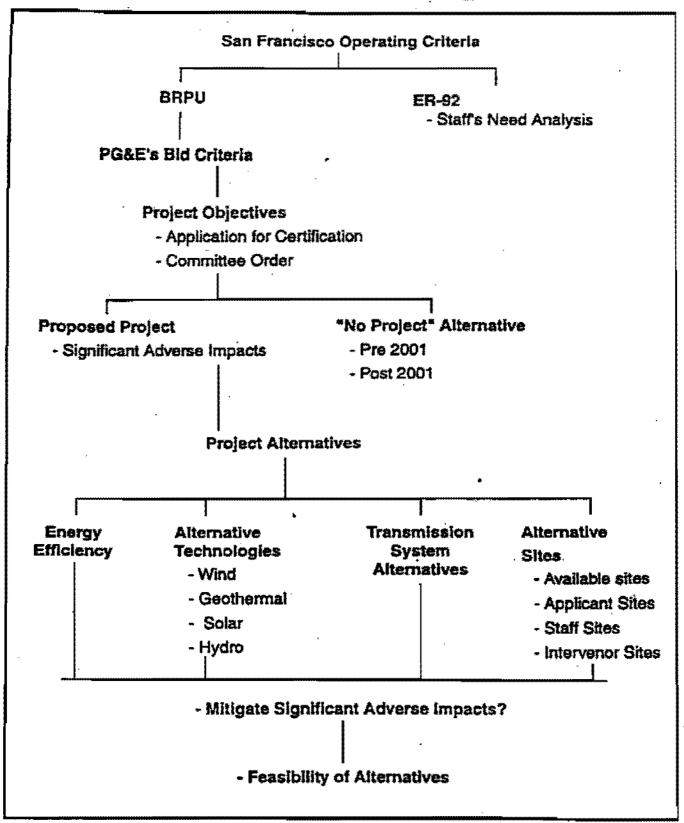
Staff's preliminary analysis began with the identification of basic objectives of the project. In its AFC, SFEC set out eight points which it defined as the basic elements of their project. These elements addressed the SFOC, the BRPU process and key bid specifications from PG&E's 1993 Request for QF Electric Generation Resources. (AFC p. 3, 123-127.)

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# ALTERNATIVES FIGURE 1 Alternatives Evaluation Methodology



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, JUNE 1975.

(Source: FSA, Vol. II, ALT Fig. 1)

Staff relied upon the COMMITTEE ORDER RE ALTERNATIVES REVIEW (January 6, 1995) which considered ER 92, the CPUC BRPU competitive bid process decision, and PG&E's bid specifications to conclude that the two basic objectives of the project are:

- 1. to add approximately 221 MW of new generating capacity; and
- 2. to locate such new generating capacity and transmit such capacity to the PG&E service area so as to meet PG&E's SFOC. 82

alternative—is to determine if any impacts, either positive or negative, would occur if SFEC did not construct the proposed project. Staff's primary focus was on the impact of the No Project alternative upon the San Francisco electric system and the SFOC. Staff determined that the No Project alternative had different impacts before and after PG&E's intended placement of Hunters Point Units 2 and 3 into long term reserve beginning in 2001. (RT 45:10-21.)

<sup>82</sup> Pacific Gas & Electric Company developed its SFOC:

<sup>&</sup>quot;... to protect the downtown area from a sustained power outage due to multiple transmission line failures along or near the San Francisco Airport or a major system disturbance outside the San Francisco and peninsula area. The criterion requires that at least 50 percent of the total city load be supplied from generation located within San Francisco during the daytime hours and on Saturdays.

<sup>&</sup>quot;In the event of a total loss of transmission supply from the rest of the PG&E system, the San Francisco Operating Criterion is designed to supply the network load entirely from local generation during heavy load hours. This is possible because the remaining 50 percent of the city load is served from radial distribution circuits equipped with underfrequency relays. Should all the transmission service to the city be interrupted or should a major system disturbance occur outside the city, the underfrequency relays would interrupt service to about 50 percent of the overall city load. The on-line generation within the city would continue to serve the downtown area and protect against city-wide blackouts. Other available generation in the city, such as fast starting combustion turbines, would then be started to restore the interrupted load." (Pacific Gas and Electric Company's ER-90 Phase Resource Plan Report for the Biennial Resource Plan Update in Compliance with Ordering Paragraph No. 3 of Decision 91-06-022, Appendix A, Page 3.)

Prior to 2001, the No Project alternative has no impact on the San Francisco electric system because there are sufficient generation resources in San Francisco. However, beginning in 2001, PG&E will not have sufficient resources to meet the SFOC unless the proposed project or an alternative is constructed. (RT 45:22-45:5.) Staff did not examine the economics of the No Project alternative to determine any economic detriment from not having the proposed project provide electricity to PG&E. (RT 60:9-14.)

In response to Staff Data Requests, PG&E responded that it would consider aggressive demand-side management, transmission upgrades, or other new local generation in order to meet the SFOC beginning in 2001. The Staff witness believed that since planning and development activities had not begun on any of these alternatives, they should be considered speculative. Additionally, any other new local generation would have project-specific as well as site-specific impacts similar to those of the proposed project. (RT 46:5-16.)

Staff concluded that the proposed project or some other project must be constructed to maintain the current SFOC. (RT 46:17-19.) Moreover, if the potential impacts of the proposed project were mitigated to a level of insignificance, then the No Project alternative, including transmission system upgrades and other new local generation, would not eliminate or reduce project impacts. (RT 46:20-25.)

- Conservation. With regard to demand-side management, Staff stated that its legal ability to consider conservation as an alternative to the project is limited by Public Resources Code section 25305(c). Staff noted that ER 92 took into account expected demand-side management and nonetheless concluded that repowering Hunters Point Units-Nos. 2 and 3 was a cost-effective addition to PG&E's system. (RT 47:1-14.)
- Transmission: As to transmission system upgrades, Staff stated the time required to plan and permit such facilities, plus potential land use, biological and visual impacts, and public concerns over electromagnetic fields, meant any transmission upgrade option would not lessen any project impacts.

Atternative Technologies: Staff also reviewed four alternate technologies: geothermal, solar, hydroelectric, and wind. Combustion technologies such as biomass and municipal solid waste were eliminated due to relatively higher levels of emissions. The lack of large vacant tracts of land in San Francisco made solar and wind infeasible. Remote locations necessary for geothermal and hydroelectric made these technologies infeasible because of the constraints of the SFOC. (RT 48:14-49:1.)

During additional hearings on September 12, 1995 to address distributive generation alternatives, Staff also reviewed battery, fuel cell, and small-scale combustion turbine alternatives. Staff concluded that since batteries require recharging they would not be able to meet the SFOC. Utility scale fuel cells are not commercially available. Multiple small-scale cogeneration or combined cycle facilities, when dispersed, require a significant aggregate land commitment, duplicate most of the infrastructure of a larger facility, and cost significantly more on a per kW basis. (9/12/95 Woo/Davis, pp. 3-4.)

Other Sites Staff reviewed alternative sites for the project. Staff identified over 150 sites throughout the northern peninsula in its initial level of alternative site identification. (RT 50:16-19.) Using screening factors, such as site size, land use compatibility, and reduction of potential impacts, Staff narrowed the site alternatives to 39. (RT 50:20-51:1.) Minimum site size was considered to be 3 acres. (RT 51:2-6.) Land use compatibility focused on identified industrial areas, but also included public districts, as well as areas identified as residential-commercial and commercial-manufacturing. However, the latter two districts were eliminated from consideration due to population densities since an alternative location would only shift, not lessen or eliminate, a potential project impact. (RT 52:4-24.) The Innes Avenue site was used as the base case in the *Preliminary Staff Assessment*. If any alternate site were inferior to Innes Avenue, it would necessarily be inferior to the Port site. (RT 51:15-22.) This screening exercise included San Francisco and the cities of Brisbane, Daly City, and South San Francisco. The San Francisco Airport area was also considered. (RT 53:7-11.)

The thirty-nine sites which remained after the initial screening were examined in the field; this reduced the number of possible alternative sites to eleven. (RT 53:12-20.) For Staff's Final Assessment, these eleven sites were combined with SFEC's original seven alternative sites. Staff's technical specialists then performed a comparative review of the remaining sites in ten separate environment-oriented subject areas. (RT 54:7-55:4.) Staff reviewed site-specific impacts as differentiated from project-specific impacts, so that impacts were evaluated based on the unique characteristics of the alternative sites. (RT 55:5-56:23.) Since all sites would have the same PM<sub>10</sub> emissions that Staff identified as the only significant impact at the Port site, Staff concluded no alternative site could be deemed a superior alternative. (RT 56:19-57:1.) Each comparative analysis was reduced to a matrix, which showed that no alternative site reduces or avoids any potential significant impact which may arise from locating the proposed project at the Port site. (RT 57:10-16.)

In addition, based on Committee directives, the Staff also reviewed the potential use of PG&E's Hunters Point site, even though use of the utility site was expressly prohibited in the BRPU. Redevelopment of PG&E's Hunters Point site to accommodate the proposed project would be infeasible due to insufficient space, disruption of operations of Unit 4, and potential non-compliance with the SFOC during the two-year period of construction. (RT 58:13-21.)

#### be. Intervenors

Intervenors explored issues related to the background of the BRPU and the SFOC and presented citizen witness Jose Lucero. Mr. Lucero's written testimony explained his personal concerns about possible impacts in the community. He specifically expressed concerns about whether the project might have health impacts or might negatively affect property values, is restated His written testimony stated in pertinent part:

It is a harsh reality that residents of low income neighborhoods or neighborhoods where there is a high percentage of people of color are often victims of so called progress. We now have San Francisco Energy Company (SFEC), a multi-billion dollar, multi-national energy company, perpetuating and contributing to a

discriminatory practice, and that is to put another powerplant in a poor area where there already exists other powerplants....

I was one of the local residents who attended a tour conducted by the CEC of different sites being considered as alternative sites. Before I went on the tour I thought, 'build a plant any place but in the Bayview Hunters Point community where I live.' However, as we went through the different areas I kept thinking that no matter where the plant is constructed in San Francisco, the additional air pollution from the plant would be the same (approximately 300 tons per year). Still had to remind myself that if the SFEC powerplant is constructed in the Bayview Hunters Point community, the cumulative effects resulting from years of dangerous emissions would further devastate this community, would further increase health risks and would decrease property values more than they are now

I believe that if the SFEC powerplant is a necessary evil that must be built, then it should be built away from populated areas. Perhaps it should be sited in a rural community where the population is not as dense as it is in the inner city. I am still not convinced there is a need for a new powerplant. I say that because in the PSA [Preliminary Staff Assessment], PG&E states that they will put Hunters Point Units 2 and 3 into long-term reserve whether or not the new the SFEC plant is built. My question is, if PG&E plans to put these two units into reserve, then it appears that the new powerplant may not be 'improving' the environment and may not even be needed. (Lucero, pp. 1-3; see, 7/18/95 RT 41:7-45:5.)

In oral testimony, Mr. Lucero pointed out that he lives within half a mile of the Port site, and the project will obstruct his view of the Bay Bridge and thus, he thinks, lower his property value. (7/18/95 RT 42:22-43:2.)

## 3. Commission Discussion.

The San Francisco Energy Company's project is the first electric generation proposal resulting from the PUC BRPU competitive bid process to come before the Commission seeking a license for licensing. As such, the Commission recognizes the unique place this case has in applying CEQA in the midst of discussions surrounding the BRPU, possible electric industry deregulation, and a future competitive electricity marketplace.

Events in this proceeding to date confirm the Committee's expectation that as the Energy Commission, the CPUC, and others begin to contemplate the early halting steps toward implementing some aspects of the competitive marketplace through ER 92 and the BRPU there were questions and issues raised about the interaction of the alternatives review, which has emerged by court decisions to dominate the CEQA process, with a bidding process which selects "winners" primarily for their interaction and does not equally value environmental, social and economic goals.

Notwithstanding this larger context, the Commission has a specific case before it which, by its controversial nature, has forced consideration of difficult issues. The Committee put these issues on the table early in this proceeding scope of an alternatives review necessary in meeting CEQA's requirements.

Some have argued that the combined ER "need" determination and the winning BRPU bid are conclusive as to virtually all issues of licensing, making final certification essentially foregone but for some fine-tuning of necessary mitigation. Under this view, CEQA's typical alternatives review is subsumed by the "deemed "needed" determination and the BRPU bid process. Thus, evaluation of site and project alternatives (as well as the "No-Project" alternative) could be so restricted as to be effectively eliminated.

On the other hand, those subject to the potential impacts of the project argue that the ER's seconomic "need" determination and the criteria of the BRPU should have <u>no</u> limiting effect on a CEQA-driven alternatives analysis since the former processes considered primarily economic, not environmental, issues and members of the affected public had no notice and opportunity to be heard on the localized impacts caused by the ER and BRPU pronouncements.

The appropriate role for the Commission is to make its best interpretation of the law. The Commission believes that within the legal hierarchy of matters which are controlling in this case, the Legislatively enacted statutes of the State of California take precedence over administrative decisions, administrative policies, staff policy papers, and party briefs. In areas of uncertainty

or disagreement, the Commission will look first to the statutory provisions of the Warren Alquist Act and CEQA to chart the course for the appropriate review of this project.

The ER and BRPU, as administrative agency actions, are subject to the statutory provisions of CEQA with respect to the alternatives review. Neither the ER nor the BRPU have purported to limit or otherwise control the comprehensive implementation of the requirements of CEQA. The Commission-also notes that neither the ER nor the BRPU purported to included a comprehensive environmental review in their findings and certainly-diddo not claim to satisfy a site-specific environmental impact review. However, the ER and BRPU do give the winning bidder a "deemed needed" finding, which is one of several essential findings required for certification (licensing). But that, in itself, is no guarantee of obtaining all the permits and licenses required for construction and operation.

Similarly, the Commission finds no express language that AB 1884<sup>83</sup> cleared a path around CEQA's alternatives review requirement for bid winners, nor an implication that our lead agency responsibilities no longer include consideration of alternatives in the licensing process. Indeed, nothing about the current law or energy policies suggests that an "economic winner" should not also face the question of whether it is an "environmental winner" too.

## a. Alternatives Review under CEQA

The provisions of CEQA are clear—if, after mitigation, there are no significant impacts from a proposed project, then there is no legal compulsion to examine project alternatives. (Pub. Resources Code, § 21080.5; Cal. Code Regs., tit. 20, § 1755(e)(1).)

However, The provisions of CEQA authorizing the Commission's certified regulatory program require consideration of mitigation measures and alternatives to minimize any significant environmental impacts. (Pub. Resources Code, § 21080.5 (d)(3).) The Commission's regulations,

<sup>49</sup> AB 1884 amended or enacted Public Resources Code sections 25523, 25523.5 and 25540.6.

which implement the certified regulatory program, require a review of project alternatives to reduce or eliminate project impacts. (Cal. Code Regs., tit. 20, §§ 1741(b)(2), 1742(b), 1742.5(a), 1755(c) & (d).)

The CEQA Guidelines require that the alternatives review "(d)escribe a range of reasonable alternatives to the project, or the location of the project, which could feasibly attain the *basic objectives of the project*, and evaluate the comparative merits of the alternatives." (Cal. Code Regs., tit. 14, § 15126.) (Emphasis added).

Furthermore, the range of alternatives:

...is governed by [the] "rule of reason" that requires the [environmental document] to set forth only those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision-making and informed public participation. An [environmental document] need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

(Cal. Code Regs., tit. 14, § 15125 (d)(5).)

If the range of alternatives is defined too narrowly, the analysis may be inadequate. (City of Santee v. County of San Diego (4th Dist. 1989) 214 Cal.App. 3d 1438.) Moreover, "feasible" is a key criterion in the evaluation of alternatives, relating to the attainment of the underlying project objectives. The CEQA Guidelines define "feasible" as, "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors." (Cal. Code Regs., tit. 14, § 15364.)

### b. The Project's Basic Objectives

At this point, the Commission is the arbiter of the definition of the "basic objectives of the project" for the purpose of the alternatives review. Defining those objectives too narrowly

could result in the exclusion of potentially feasible alternatives. Conversely, too broad a definition of the project objectives fosters consideration of fundamentally infeasible alternatives.

In defining the basic project objectives, the Commission need not rely solely upon SFEC's project definition but may utilize any relevant information. In this respect, the Commission has considered the AFC, the ER 92, the BRPU Decision, and PG&E's bid specifications to determine conclude that the basic objectives of the project are:

- · to add approximately 221 MW of new generating capacity, and
- to locate such new generating capacity and transmit such capacity to the PG&E service area so as to meet PG&E's SFOC.

The Commission recognizes that there are subsidiary objectives such as the cogeneration status of the facility, site control, the time for the construction and operation of the facility, and the low price of the electricity to be sold to PG&E. Novertheless Consequently, the Commission anticipates discussion of these and perhaps other subsidiary objectives, but believes that the two enumerated basic project objectives should guide initial inclusion of any alternative in the review. Whether any objective is met is a question of fact which was adjudicated at the evidentiary hearings. (COMMITTEE ORDER RE ALTERNATIVES REVIEW, 1/6/95, pp. 8-9.)

The Intervenors take the Commission to task for disagree with the use of the SFOC as one of the defining objectives of the project for its limiting effect on the alternatives review:

Looking at this proceeding, the fundamental, unchangeable parameters include adherence to PG&E's SFOC, and the related narrowness and rigidity of criteria for evaluating the "no project" alternative.

The Commission has uncritically accepted the SFOC in whatever form is currently proclaimed by PG&E, as a necessary parameter for energy planning in San Francisco. This PG&E rule of thumb is developed, and changed, without any public notice or input, as well as without any CEQA review or other regulatory oversight or review. It is whatever PG&E says it is, and changes at PG&E's pleasure. (Intervenors' Br., pp. 11-12.)

The entire structuring of this proceeding, both in its need determination and in its CEQA analysis, has been based upon the assumption that PG&E's grid has certain operating requirements that must be maintained. (Intervenors' Reply Br., p. 19.)

Intervenors offer no substantive evidence that the SFOC is inappropriate as PG&E's operating guideline. Thus, tThe Commission will-not disregard takes nonce of PG&E's SFOC as a long-established and proven practice to provide reliable electricity to San Francisco-due to the non-substantive criticism offered by the Intervenors. The record contains no substantive evidence that the SFOC is inappropriate as PG&E's operating guideline.

The SFOC is not an operating policy created by PG&E outside of public scrutiny—as Intervenors intimate. The earlier and revised SFOCs could be found in periodic PG&E filings before the CPUC regarding the reasonableness of its operations. In a general sense, the CPUC reviews such filings and determines what costs have reasonably been incurred by the utilities and are thus chargeable to ratepayers. If the SFOC caused PG&E to unreasonably spend ratepayer dollars for system reliability, for San Francisco generation, and for operating facilities to be able to meet an upset or emergency contingency, then the CPUC presumably would disallow that expense. The CPUC's actions in identifying the Hunters Point Identifiable Deferrable Resource (IDR)—and not staying the BRPU bid process demonstrate its consideration and approval of the SFOC. The CPUC's processes in such matters, including the reasonableness review, are open to the public.

The Commission in ER 90 and ER 92 was cognizant of and reasonably took into account the SFOC in determining that repowering PG&E Hunters Point Units 2 and 3 was needed and represented a socially least cost option. All of the ER processes were open and accessible to the public. The fact that the SFOC is arcane and of little day-to-day interest to most of the public does not mean that decisions and policies about it were not arrived at openly and based upon thoughtful analysis.

The Commission therefore, finds that use of conformity with the SFOC<sup>84</sup> is an appropriate objective of the proposed project.

### c. No Project Alternative

SFEC argued early in the proceeding that the determinations in the ER and BRPU that a given generation resource planning action "needs" to be taken fundamentally means that taking no action (i.e., the "No Project alternative") is not an option. At issue is the question of whether the project, after a thorough evaluation, has significant impacts which can or cannot be reduced or eliminated. Included among the requirements of CEQA is an analysis of the beneficial and negative effects, if any, of not building the project. But this "No Project" analysis is to consider environmental factors, whereas the ER and BRPU considered mainly economic factors. Consequently, the review of the "No Project alternative" must be conducted to comply with CEQA.

SFEC contends that the No Project alternative is infeasible from 1997 because it does not provide the project's economic benefits identified in ER 92 and the BRPU, which are integral to SFEC's broader definition of the objectives of the project. SFEC also asserts that the No Project alternative does not provide the reliability benefits of the project after 2001 when Hunters Point Units 2 and 3 are placed in long term reserve.

Using the narrower definition of the project objectives in the COMMITTEE ORDER RE ALTERNATIVES REVIEW, Staff disregarded any economic benefits and determined that the

Even though the Commission has included adherence to the SFOC as one of the basic objectives of the project, the record shows that the SFOC has been revised in response to transmission system upgrades by PG&E in 1991. These revisions fundamentally allow economic dispatch of San Francisco generation resources during non-peak loads.

Notwithstanding the prescription in the SFOC for "minimum levels of local steam generation," the Committee allowed, for purposes of a comprehensive alternatives review, the parties to conduct a limited review of transmission line upgrades to ascertain whether such upgrades, alone or in combination with local generation, are capable of satisfying the fundamental reliability goal of the SFOC.

No Project alternative was feasible from initial operation in 1997 until 2001 because Hunters Point Units 2 and 3 would also be available to meet PG&E's reliability needs. After 2001, the No Project alternative is infeasible due to the placement of Hunters Points Units 2 and 3 in long-term reserve.

The Intervenors contended that PG&E's 1991 transmission upgrades leading to the revision of the SFOC render the No Project alternative feasible until 2013, when PG&E loads exceed 900 MW. (Ex. 10.)

In their Brief, the Intervenors presented an arithmetic exercise, starting from the total capacity of peninsula transmission at 1030 MW and a San Francisco load of 900 MW. Stating that PG&E's principal reliability concern is an earthquake, Intervenors subtract the loss of a major transmission line from the peninsula capacity which leaves 730 MW. Then, based upon transformer stress, that capacity would be reduced to 570 MW after 30 minutes.

PG&E would have 578 MW of local, San Francisco generation to bring on line in addition to the reduced transmission capacity. The generating capacity consists of 435 MW from PG&E's Hunters Point, Units 2, 3 and 4 at full capacity and the diesel units, plus 363 MW from PG&E's Potrero powerplant. Intervenors then subtract Hunters Point Units 2 and 3 (220 MW) leaving the 578 MW referred to above. Intervenors also subtract the capacity of the largest remaining unit, Potrero Unit 3 (207 MW), 85 as a contingency for its outage, leaving 371 MW of San Francisco generation.

Lastly, the remaining 570 MW of Peninsula transmission capacity is added to 371 MW of local San Francisco generating capacity for a total of 941 MW to meet 900 MW of San Francisco load. (Intervenor Br., 19-20.)

<sup>&</sup>lt;sup>85</sup> Hunters Point Unit 4 is 163 MW.

Intervenors state that with the above transmission upgrades, the SFOC would be violated only a few hours of the day during the few days of the year when San Francisco loads were at their peak. Otherwise, prior to 2001, the combined capacity of Hunters Point Units 4 and Potrero Unit 3 satisfies the SFOC 95 percent of the time. (Intervenors Br., p. 20.) Thus, since the underlying purpose of the project is to provide electricity to San Francisco in case of certain contingencies, Intervenors suggest that the limited technical violation of the SFOC if the proposed project were not built under the No Project alternative does not warrant rejection of the No Project alternative. (Intervenors Br., p. 21.)

The Intervenors' direct testimony on Alternatives did not address transmission issues related to the SFOC. However, in the Demand Conformance sessions of the hearings, Intervenors subpoenaed PG&E to testify by presenting its answers to Data Requests, dated April 28, 1995, May 25, 1995, and June 30, 1995.

#### Therefore, PG&E personnel testified:

If the San Francisco Energy Project does not come on-line starting in 2001, there would not be sufficient local generation to meet the existing [revised] SFOC. To resolve this issue, PG&E would investigate and evaluate alternatives to the San Francisco Energy project which would enable PG&E to continue to reliably supply electric service to San Francisco and the peninsula beyond December 31, 2000. (May 24, 1995 PG&E Data Response, p. 6; Emphasis added.)

In the June 30, 1995, responses to the Intervenors' Data Requests, PG&E addressed compliance with the SFOC taking into account its 1991 transmission upgrades:

Intervenor Question 1: [In pertinent part]... Why may not one merely assume that since an additional 260 MW has been provided to San Francisco through a [1991] transmission upgrade that the initial identified need [ER 90 & ER 92] has been satisfied?...

PG&E Answer: [In part]... Only comparing megawatts of transmission added with megawatts of generation added does not consider the reliability differences of these two types of resources. The reliability of the combination would need to be

considered and analyzed to compare one proposed plan with another. For example, PG&E in response to ALT-PG&E 19d [another data response] stated installing additional 230 kV or 115 kV transmission capability to supply San Francisco and the peninsula areas would allow lowering generation required to protect against transmission limitations. However, such a reduction may require exposing additional downtown networks to under-frequency load shedding.

The present SFOC reflects the additional transmission capability installed in 1991. In addition, the level of required generation specified by the SFOC would be able to supply eight of the ten downtown distribution networks should San Francisco become islanded from the rest of the PG&E transmission system. A controlled separation scheme at Martin Substation will island San Francisco customers and local generation in the event of a major system disruption which causes a substantial decline in system frequency. This scheme will automatically separate San Francisco load and generation north of Martin Substation from the system if system frequency declines to 58.3 Hz and the power flow is towards San Mateo. With this decline in frequency, radial San Francisco distribution loads and two networks (approximately 60 percent of total San Francisco peak load) will be interrupted by under-frequency load shedding. The remaining networks are not subject to under-frequency load shedding and would continue to be supplied by generation located in San Francisco. (pp. 2-3.)

Effectively, these PG&E responses confirm a conclusion opposite from that argued by the Intervenors. The 1991 transmission upgrades are not sufficient to meet the SFOC and provide reliable electric service to San Francisco. In other words, on a physical need basis, in PG&E's view the No Project alternative is not feasible after Hunters Point Units 2 and 3 are put in long term reserve at the end of 2000.

An additional point needs to be made Moreover based upon PG&E's foregoing answer. It is inaccurate to believe that the SFOC protects all or even a majority of San Francisco's peak loads. However, PG&E's answer to the Intervenors' Data Request quoted above shows that, if San Francisco is separated from the rest of PG&E's transmission system, 60 percent of peak loads will be interrupted. That means loss of electric power to those PG&E customers.

Expressed inversely, only 40 percent of peak loads will remain uninterrupted by virtue of the generation located in San Francisco. Local generation to maintain 40 percent of peak loads does not seem unconscionably high to the Commission. The SFOC should be regarded as a form of electricity insurance for San Francisco. The so-called "coverage" of this insurance protects only 40 - 50 percent of peak loads.

Like other forms of insurance, "excessive" coverage means spending more that the benefit purchased. However, insufficient "coverage" mean unprotected losses. Certainly, many of those in the interrupted 60 percent could argue that there should be more local generation to reduce the number of customers losing power. There are many contingencies which the SFOC must contemplate. While earthquake and aircraft accidents are among the most obvious which would cause partial or total transmission disruptions along the peninsula corridor, there are other events which could occur hundreds of miles away in the western states' interconnected transmission grid which could cause an instantaneous local effect in San Francisco.

# Observations on the No Project Alternative and Economic Need

Unlike prior Electricity Reports (ER), ER 90 and ER 92 are founded on the principle of "economic" need. Previously, the Commission determined need on the basis of aggregating new demand, powerplant retirements, and expiring interstate power contracts to find total need and then subtracting conservation, anticipated power contracts, and repowering to provide a net need number. This process relied upon the existence of a "physical" need to justify the construction of new facilities.

The Commission's success in identifying and filling the "physical" need within the State of Culifornia and the emergence of private power developers responding to federal energy policy initiatives led to the introduction of the concept of "economic" need. In its infancy which occurred during an era of lucrative Interim Standard Offers, "economic" need was introduced to protect consumer interests by requiring that ratepayers be economically indifferent whether electricity was produced by a utility or by a private developer.

Once un economic private electricity development was discouraged, the next incornation of "economic" need was intended to advance consumer interests by suggesting that a ratepayer benefit could result if the utility's average cost to produce or purchase electricity was reduced. Thus emerged the concept of the socially least cost option which introduced a measure of competition between the utilities and the private electricity developers to reduce the utility's average cost of electricity. This is the "economic" need of ER 92.

However, in this engoing siting proceeding, the public perception of the benefits of "economic" need is something entirely different depending on the perspective of the viewer. Virtually all members of the Bayview Hunters Point community who have voiced project opposition believe that their community is being asked to shoulder a public burden in order to create a private benefit. Put more candidly, they say, Hunters Point gets the pollution, the hazardous chemicals, and the smoke stack while SFEC gets the profits from electricity sales and hypothetically, some or all of PG&E's customers benefit. None seem to believe that there will be a direct economic benefit to them; if somebody's rates do go down, it will be others, not the average residential consumer.

The effect upon a CEQA alternatives review—particularly the No Project alternative from "physical" need to "conomic" need is major. "Physical" need means that without the project, electric service would be compromised. "Economic" need represents the principle that the power system can be operated at a lower overall cost with, rather than without, the project. The contrast is striking—a project may not be needed (physically) to "keep the lights on," yet it would nonetheless lower total system costs.

Having won the competitive bid, an electricity project for private gain is conceptually no different from a mall project, hotel, office complex, or fast food restaurant. These types of projects provide a public benefit, some of which are the new services that are not otherwise available, and others by introducing competition into the marketplace, which produces a public benefit.

A problem arises if an imprimatur of public benefit is given to what appears to be the private benefit of "economic" need. A project required for system reliability is needed for the "public convenience and necessity" at a definable time and often a specific place. Under CEQA, while that does not obviate the requirement for a No Project alternative review, it does mean that such a review takes place in light of a compelling reality that something must be done to achieve the project's objectives or there will be a significant public detriment, namely degradation of electric service below a level which society as a whole has established. That level of service has been established for health and safety and furtherance of a sound economy, all for the greater public good.

On the other hand, a project founded solely on "economic" need may be publicly beneficial, but it is not compelling. Thus, there will be no comparable detriment to the greater public from the No Project alternative. Such projects are appropriately characterized as discretionary.

There is a clear dichotomy between the CEQA alternatives analysis for needed and discretionary projects. If privately developed powerplants are foremost for private gain, and not public convenience and necessity, then a defensible CEQA alternatives analysis should not rely on economic benefit as a primary project objective.

For this reason, the COMMITTEE ORDER RE ALTERNATIVES REVIEW discussing the interrelationship of CEQA's alternatives review and the economic need principles of ER 92 and the BRPU stated:

Included among the requirements of CEQA is an analysis of the effect of not building the project. But this "no project" analysis is to consider the environmental factors, whereas the ER and BRPU considered mainly economic factors.

SFEC also appears to have anticipated a potential problem in sole reliance on "economie" need in the CEQA analysis and has provided substantiation of "physical" need for the project for all but 1997 to 2001.

The project is a hybrid of economic need and physical need. The evidence in the record persuasively establishes that the project assumes a reliability role in San Francisco after 2000 when the PG&E's Hunters Point Units 2 and 3 are effectively retired due to air quality limitations.

The CPUC appears to have also acknowledged the physical need aspect of the project in denying PG&E's 1994 bid to stay the BRPU award. Instead of relying on the economic benefits of the project, the CPUC noted the unique and compelling circumstances of the San Francisco península's electricity need.

There are likely indirect environmental benefits from operating the project from 1997 through 2000 in that by comparison to the entire PG&E system, PG&E's other facilities would have to make up for the No Project alternative. Such existing powerplants would not burn as eleanly and would burn more fuel.

The Commission finds that physical need supports the project. On a physical need basis alone, the proposed project is needed after 2000, but the No Project alternative is feasible from 1997 through 2000. However, the record also establishes that the project will generate electricity more economically than Hunters Point Units 2 and 3. Consequently, prior to 2001, there will be an economic benefit serving an economic "need." This is the economic need found in ER 90, ER 92 and the BRPU. In addition, as discussed in the AIR QUALITY section, by such displacement the project will erente a regional air quality benefit.

The fact that the No Project alternative is feasible during a period of economic need does not suggest that economic grounds would not be sufficient in and of themselves for construction of the project particularly where, as here, there are no significant adverse impacts from the project itself. Therefore, in the context of the entire project, the No Project alternative fails to meet stated objectives.

Moreover, given the anticipated non-use of Hunters Point Units Nos. 2 and 3 after 2001, the No Project alternative becomes, on balance, environmentally inferior to the proposed project since generation to make up for Units Nos. 2 and 3 will come from remote facilities which are neither as clean or as efficient (in terms of fuel consumption) as the project. There are also higher energy losses to compensate for transmission of power from remote generation.

#### d. Additional Conservation

Conservation, demand-side management, and energy efficiency are basically synonymous for this analysis. Intervenors contend<sup>86</sup> that additional customer conservation measures should have been considered based on PG&E's May 24, 1995, Data Response No. 6 stating that without the project and without Hunters Point Units 2 and 3 after 2000:

PG&E would evaluate alternatives to the San Francisco Energy Plant which would enable PG&E to continue to provide reliable electric service [a]fter January 1, 2001. These alternatives <u>could include</u> aggressive DSM programs, transmission upgrades or other new local generation. (p. 4.) (Emphasis added.)

Staff and SFEC both take the position that Public Resources Code section 25305(c) prohibits consideration of additional conservation as an alternative to the project.

Intervenors' Brief (p. 27) states that "Staff further violated CEQA by failing to include in its noproject alternative a sufficient analysis of conservation." Inserting additional conservation into the No Project alternative changes their setting of the No Project alternative from "what would be the effect of no project in the existing setting to" what would be the effect of no project in a setting changed by additional conservation?' The Commission believes that inclusion of additional conservation in the No Project alternative analysis would be improper. Instead, additional conservation must be analyzed separately as an alternative to the project.

In the context of the preparation of the Commission's biennial *Electricity Report* forecasting electricity demand, Public Resources Code section 25305(c) provides:

Conservation, load management, or other demand reducing measures reasonably expected to occur shall be explicitly taken into account only in determinations made pursuant to this subdivision, and shall not be considered as alternatives to a proposed facility during the siting process specified in Chapter 6 (commencing with section 25500).

Intervenors want to harmonize CEQA's directive to consider feasible alternatives and the Warren-Alquist Act's prohibition against considering conservation in siting cases. For the Intervenors, "harmonize" apparently means that additional conservation should be considered—in a siting—case as an alternative to the project on the theory that PG&E's action to pursue aggressive conservation is a "sure thing" in the absence of the SFEC's project.

The Legislature's use of the language "shall not be considered as an alternative to a proposed facility during a siting process" only has meaning in the context of the CEQA review during a siting case. The Commission does not need to search elsewhere for legislative intent. There is no vagueness. The Legislature's intent is express and unequivocal. The Commission's CEQA analysis is constrained from considering additional conservation as an alternative to a proposed project in siting cases. This Legislative enactment followed passage of the alternatives review requirements of CEQA. Thus, the Legislature intended to limit this aspect of the Commission's alternatives review. The Legislature did so not because it did not want consideration of conservation vis-a-vis a new powerplant, but rather because it believed that consideration should take place in the overall forecast of electricity demand, not in an individual siting case.

Intervenors' Brief (p. 27) states, "In this case, <u>PG&E</u> has made clear that its actions in the case of no project would be to utilize aggressive conservation as necessary to meet the SFOC." (Emphasis added; see, also p. 29.) The Commission believes that Intervenors' Brief misstates the record in the guise of argument. PG&E stated that in the absence of the project, its

alternatives "could include" aggressive conservation, transmission upgrades or new local generation. That is a far cry from "making it clear" aggressive conservation would be employed to meet the SFOC and cannot be considered to be conservation reasonably expected to occur. It is too speculative to support any finding.

In its AFC, SFEC reviewed the conservation measures taken into account in the ER process. (AFC, p. 3-132.) Almost 4,000 MW of additional energy was judged to be needed within PG&E's service territory during the period ending in 2001. Of the 4,000 MW, the Commission and the CPUC determined that two-thirds or more of that need would be satisfied by demand reducing measures.<sup>87</sup> (ER 92 at 96; CPUC Decision 92-04-045; AFC, p. 3-133.) Notwithstanding concerns that conservation was being overestimated, the CPUC allowed only 243.5 MW of the remaining third of PG&E's need to be bid in the BRPU auction. (CPUC Decision 92-04-045.)

The Commission finds that conservation was fully considered and accounted for in a manner that favored conservation over generation in ER 92 and the CPUC's BRPU. The Commission also finds that section 25305(c)'s prohibition against consideration of conservation in a siting case is controlling in this instance.

# Transmission System Upgrades Alternative

The Intervenors-also contend that a transmission line upgrade is a feasible alternative to the project. In the No Project alternative review, Intervenors They claim that PG&E's 1991

<sup>&</sup>quot;net" demand in ER 92. Effectively then, conservation which might have obviated the need for any new generation was taken into account in arriving at the "net" forecast of need for PG&E's service area. Moreover, accounting for conservation "reasonably expected to occur" means that conservation nor reasonably expected to occur was not taken into account. Conservation not reasonably expected to occur would be infeasible per se as an alternative to a project. Regarding conservation not reasonably expected to occur, Intervenors have mischaracterized the record as to PG&E's intentions in the absence of the project.

transmission upgrades, combined with existing San Francisco generation, are sufficient to satisfy the SFOC so that the No Project alternative is feasible. Intervenors-also alternatively argue that future transmission upgrades are capable of meeting the SFOC, thus providing an actual alternative to the proposed project. Of course, if the 1991 PG&E transmission upgrades were sufficient to meet the SFOC, then future transmission upgrades would be unnecessary.

With regard to future upgrades, the underlying premise for the Intervenors' position is stated in their Brief (p. 22):

To the degree that there is any electrical supply problem at all in San Francisco, it is a transmission capacity problem, not a generation problem. (RT 27.)<sup>88</sup>

In the absence of a clear definition of what The Intervenors do not define what they believe is a feasible transmission upgrade alternative. However, any upgrade alternative must recognize two realities inherent in the existing system, the Commission must make some assumptions if it is to be analyzed further.

First, if the project is not built and PG&E's Hunters Point Units 2 and 3 are in long term reserve after 2001, then the megawatts generating capacity needed to meet the San Francisco load must be provided by some other powerplant connected to PG&E's transmission grid.

Second, in order for the remotely generated electricity to reach San Francisco there must be delivery capability on transmission facilities above and beyond existing usage. In the absence of adequate transmission facilities, the existing facilities must be upgraded or new transmission lines constructed.

<sup>&</sup>lt;sup>88</sup> In the absence of a line citation, Intervenors' page citation above to the transcript of the hearings appears to be in reference to a reading from a transcript of Staff's May 24, 1995 workshop in which PG&E participated in discussing transmission issues.

There is a fundamental flaw in offering additional transmission lines to make up for lost local generation. For the unique circumstance of San Francisco, the SFOC is a form of insurance to protect electricity users against two possible contingencies. The Ffirst is the partial loss of incoming electricity due to an outage of the highest capacity peninsula transmission line. That circumstance is called N - 1 ("N minus one") and on the peninsula is the loss of the underground 230 kV cable. The SFOC provides back-up generation in the City San Francisco so that all loads are uninterrupted. The Second, the other contingency is when San Francisco is "islanded" from the PG&E system due to an outside transmission grid disruption. Under this circumstance, the SFOC protects a critical 40 percent of the City's peak loads from interruption. Colloquially, giving up local generation for more transmission of remote electricity "puts more eggs in the already risky basket."

The SFOC exists to protect San Francisco from outside events, whether it be earthquake, aircraft accident, loss of peninsula transmission, or western transmission grid disruption. Depending upon the severity of the event, the City could become an "electric island." Trading away local generation on that "electricity island" for added transmission capacity off the "island" does not add reliability or maintain the reliability which exists today. Giving up San Francisco-based generation merely means that an even lower percentage of San Francisco loads would be met in the event of a complete transmission loss.

Further hearings on transmission line upgrades as a possible alternative to the project were conducted on September 12, 1995. SFEC, Staff, and PG&E all testified that such upgrades would not satisfy the "islanding" contingency of the SFOC. Only local generation will satisfy it. (9/12/95 RT 14:19-15:9; 17:3-14; 18:2-7; 50:18-21; 55:19-20; 57:20-58:2.)

Additionally, comparing the environmental effects of the proposed project with remotely generated and transmitted electricity does not lead to an obvious conclusion that such an

<sup>&</sup>lt;sup>89</sup> In transmission engineering jargon "islanded" means isolated from the remainder of the interconnected transmission system with connotations of self-reliance for electric generation.

alternative, on balance, would be environmentally superior. First, remote generation would not only be required to generate the 221 MW of the project, but also an added amount to compensate for transmission line losses. The more remote the facility generating the electricity from San Francisco, the greater line losses and so the greater the amount of added generation needed. As a general proposition, the most economic, fuel efficient, and environmentally clean facilities in the PG&E system are dispatched to their maximum capability. Consequently, the added remote generation requirement would be met by facilities which are less efficient and less environmentally clean than the state-of-the-art proposed project. That means that more fuel will likely be burned and more pollutants emitted with the transmission upgrade alternative than with the proposed project.

Second, the transmission lines coming up the peninsula to San Francisco already carry enough electricity that added remote generation potentially requires additional transmission lines. In order to be placed within the existing transmission corridor, existing transmission would have to be torn down and rebuilt to new specifications. As a rule, existing transmission towers are engineered to carry the conductors for which they were designed, not a new larger and heavier conductor. During the entire period of rebuilding the transmission line to the City, reliability would be decreased, peninsula transmission capacity would be reduced, and San Francisco powerplants would have to run more often to make up the difference.

HoweverMoreover, if existing corridors are insufficient or unsafe for construction of new transmission lines, then new transmission routes would have to be established up the peninsula, which is either largely already developed or committed to public use. Thus, there would likely be significant environmental impacts along the lineal distance of the transmission with a host of potential land use, visual, and electromagnetic fields issues.

Based upon the record, there does not appear to be a transmission alternative which is feasible in terms of satisfying the SFOC's reliability requirements.

#### Df. Alternative Sites

#### **Introduction**

Consistent with CEQA, the alternative site analysis is to evaluate a reasonable range of feasible sites which could meet the project's basic objectives and which could substantially reduce or eliminate any potentially significant adverse impacts of the proposed project. Ideally, it would first be necessary to identify and determine the potential significant impacts of the proposed project and then focus on alternatives which are capable of reducing or eliminating those impacts.

The Commission's siting process conceptually expedites a comprehensive review of not only environmental effects of the project but also alternatives within the statutory deadline of 12 months. In order to provide sufficient time to gather needed information, to assure a meaningful opportunity for public participation in hearings, and to prepare the written documentation required by law, the Commission's certified regulatory program has combined or compressed certain activities to meet the statutory deadline. In this instance, Commission procedures provide for the simultaneous evaluation of whether there are significant project impacts while at the same time conducting an alternatives review.

Prior to the publication of the Proliminary Staff Assessment (PSA) in mid-February 1995, sufficient information had been exchanged among the parties and discussed in open, public workshops so that an effective alternatives review proceeded on the basis of identified potential significant impacts. Thus, the search for alternative sites assumed that unmittigated, significant impacts would occur from the project without identifying specifically what those impacts would be and considering only minimal screening criteria for feasibility.

The use of the SFOC as a basic project objective effectively means that any alternative sites must be on the northern San Francisco Península in order to interconnect with the existing PG&E transmission line system at or north of the H. Martin substation in Daly City. In conducting the alternative site review, Staff recognized that sites south of the San Francisco International Airport could meet the basic objectives of the project. However, in order to

transmit the capacity of a 221 MW project to the PG&E service area to meet PG&E's SFOC, a new transmission line and accompanying right-of-way would have to be created. Based upon the Commission's experience in evaluating transmission lines, Staff concluded that a new transmission line of a size and length sufficient to transport 221 MW to the H. Martin Substation (the southernmost of PG&E's identified seven substations on the northern San Francisco Peninsula) would likely be accompanied by additional adverse environmental impacts beyond the impacts associated with the site itself. Therefore, Staff conditionally eliminated sites south of the San Francisco International Airport were conditionally eliminated from consideration in the initial screening.

In the PSA, the Staff considered seven sites previously evaluated by SFEC, over 150 sites identified by the Staff, and two sites proposed by the public and intervenors. Four additional sites were proposed by the Intervenors following the filing of the PSA.

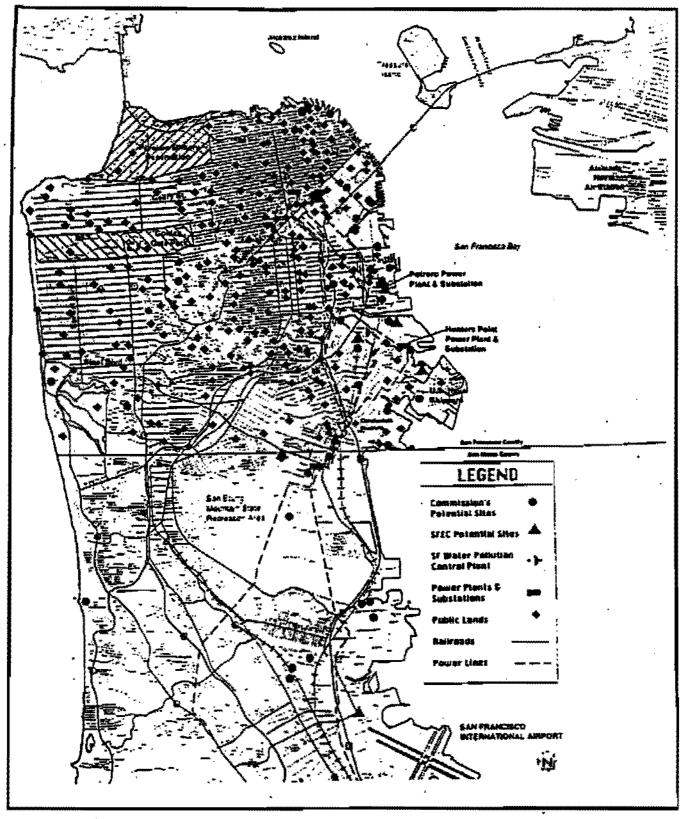
The 150 sites were identified throughout the northern San Francisco Peninsula, and spanned the entire City of San Francisco. (See, ALTERNATIVES FIGURE 2.) Staff screened each site to determine whether there existed any "fatal flaws" which would preclude siting a project at the alternative site under any circumstances. Factors considered in the screening included site size, land use compatibility of the site and adjacent areas, and whether the site would reduce or eliminate potential impacts that could occur at the Innes Avenue site. Field reconnaissance was made on the remaining 39 sites (See, ALTERNATIVES FIGURE 3.) At the end of this screening, the Staff identified eleven alternative sites to be compared with the proposed project; those sites are analyzed herein. (See, ALTERNATIVES FIGURE 4.)

These final eleven alternative sites are feasible with the meaning of CEQA.<sup>60</sup> Although all eleven analyzed sites appear feasible, the SFEC project's site-specific impacts at the Port site (not project-specific) have all been adequately mitigated, and there is no significant benefit to

<sup>&</sup>lt;sup>90</sup> That is, "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors." (Cal. Code Regs., tit. 14, § 15364.)

locating the project at any of these alternative sites because the same project-specific impacts.
including PM <sub>10</sub> , apply occur wherever the project is located.
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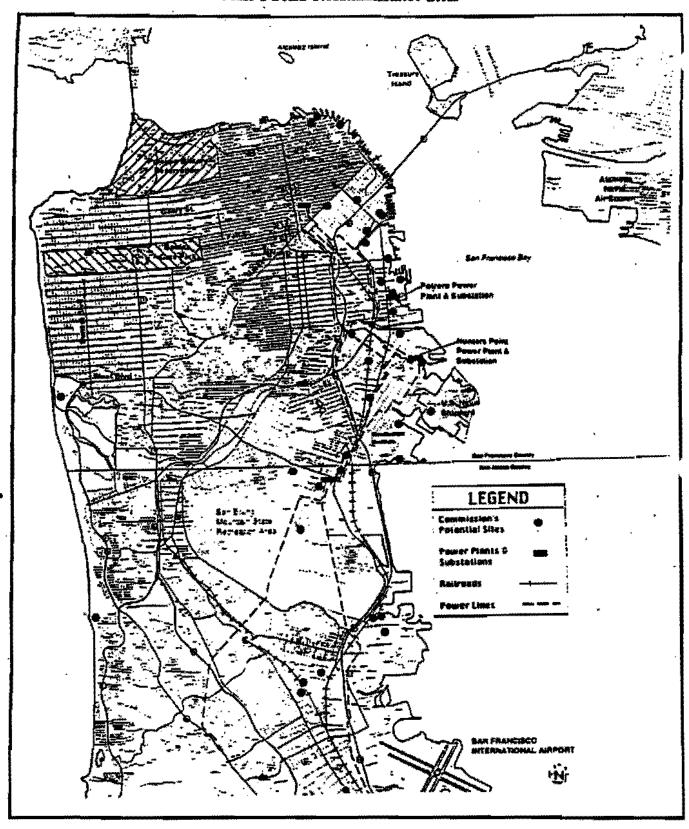
### ALTERNATIVES FIGURE 2 Staff's Site Screening - 150 Sites



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, APRIL 1995. SOURCE: Adapted from USGS Sen Francisco, CA 7.5 Minute Quade, and SFEC Application For Cartification, Vol. 1, July 1994.

(Source: FSA, Vol. II, Fig. ALT 1)

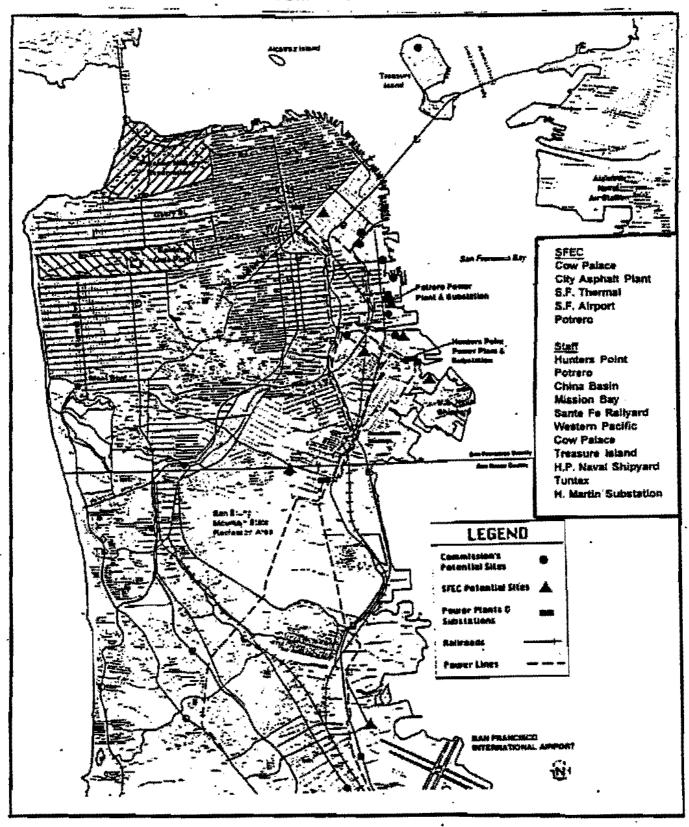
# ALTERNATIVES FIGURE 3 Staff's Field Reconnaissance Sites



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES STITING & ENVIRONMENTAL PROTECTION DIVISION, APRIL 1995. SOURCE: Adepted from USGS San Francisco, CA 7.5 Minute Quade, and SFEC Application For Cartification, Vol. 1, July 1994.

(Source: FSA, Vol. II, Fig. ALT 2)

# ALTERNATIVES FIGURE 4 Final Staff & SFEC Sites



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, APRIL 1995.
SOURCE: Adapted from USGS San Francisco, CA 7.5 Minute Quada and SFEC Application For Confidenties, Vol. 1, July 1994.

(Source: FSA, Vol. II, Fig. ALT 3)

#### g. SFEC's Alternative Sites

SFEC evaluated seven sites before concluding that the Innes Avenue site and Port site were its proposed and alternative sites, respectively. The other five sites are referred to as the Cow Palace site, the City Asphalt Plant site, the San Francisco Thermal site, the San Francisco International Airport area site, and the Potrero site.

The following is a summary of the review performed by SFEC and contained in the AFC regarding the feasibility of the eliminated sites. SFEC's review was based on the following factors: site size; configuration and zoning; steam host accessibility; substation accessibility; cooling water and gas supply accessibility; and site economics and availability.

## (1) Cow Palace

The Cow Palace site was identified because of its proximity, less than 1/2 mile, to the H. Martin 230 kilovolt (Kv) substation. However, this site was eliminated by SFEC because of poor access to cooling water and natural gas supply constraints. SFEC also stated in its AFC that site size and configuration would make facility design difficult, and zoning changes would be required. A proposed alternative site, recommended by Daly City Planning Department staff, is located near this site.

#### (2) City Asphalt Plant

The City Asphalt site was examined because it possessed favorable access to a potential source of secondary effluent for cooling purposes at the Southeast Water Pollution Control Plant (SWPCP). Access to the SWPCP also provides a feedstock for a proposed water reclamation facility which, in turn, provides SFEC with a thermal host. However, the site was found to pose significant plant configuration and site control difficulties. SFEC would have to relocate existing land uses (storage of city cars and trucks) and accommodate a city street which runs through the

site. Staff also analyzed this site, found it to be too small, and precluded it from further evaluation as an alternative.

### (3) San Francisco Thermal

The San Francisco Thermal site was identified because of its proximity to San Francisco Thermal Limited Partnership's existing central heating plant which—couldwill serve as a the thermal host for the project. Although possessing thermal host access, the site was disqualified due to size and configuration constraints, as well as availability constraints. Staff examined this site and agreed that the site is too small to use as an alternative to the proposed project. For this reason, SF Thermal was also eliminated from further consideration as an alternative.

## (4) San Francisco Airport Area

The San Francisco International Airport area was identified because of the heavily industrialized nature of the existing uses of the area and the presumed availability of a potential thermal host, given the high incidence of process steam consumption in and around the airport. According to SFEC, it was persuaded that substantial displacement of existing airport structures and activities would be necessary in order to locate the facility on airport property. SFEC, therefore, determined that the development of an airport site was not feasible. This decision was reinforced, according to the AFC, by the consideration of supplying cooling water and natural gas to a facility located on airport property. Staff also examined the San Francisco Airport area and was unable to find a site suitable for locating an alternative to the proposed project.

# (S) Potrero

A site across the street from the PG&E Potrero powerplant was identified as an alternative by SFEC because of its presumed ease of transmission access. However, SFEC states in the AFC that under PG&E's bid specifications not all of the facility's electricity production could be delivered to that substation. The next closest substation is the Hunters Point substation, a distance

of more than 2.5 miles. SFEC disqualified the site based on site availability and economics. Staff's alternatives analysis examined an alternative located within PG&E's Potrero powerplant.

## (6) Staff Alternative Sites.

The Committeession reviewed Staff's Alternatives Appendix A providing the comparative analysis of the Port site and the alternative sites. Staff's Appendix B analyzes the infeasible sites. Staff's Appendix A and Appendix B These Appendices are incorporated by reference herein; and Appendix B is attached to this Decision as APPENDIX: ALTERNATIVES.

## (7) PG&E Hunters Point Site.

Hunters Point was analyzed as two alternative projects: Alternative 1 would have a total capacity of 440 MW and use two combustion turbines and the existing Unit Nos. 2 and 3 steam turbines of Units 2 and 3. (This was originally considered by PG&E to be the repower project at Hunters Point, also referred to as the IDR.) Alternative 2 would use a single combustion turbine capable of generating approximately the same capacity as SFEC's proposed project. These two repower configurations at the Hunters Point powerplant are feasible alternatives.

#### (8) PG&E Potrero Powerplant.-Site

At the PG&E Potrero powerplant, Staff analyzed a new combined cycle powerplant, which would consist of a single GE Frame 7F coupled with a steam turbine. The project would be located in the empty space south of the fuel storage tanks, and east of the Sugar House (a sugar refinery built by Claus Spreckels, now used as a warehouse by PG&E) and immediately north of the existing units. This alternative at the PG&E Potrero powerplant site is feasible.

## (9) China Basin Stadium.-Site

This site is immediately south of the Southern Pacific Terminal (CalTrain station) bounded by an offramp of Highway (Hwy) 280 and the CalTrain site. The site is at the corner of Fourth Street and Berry Street. This site is immediately west of China Basin. Since the initial identification of this site as an alternative, Caltrans informed the Commission it is planning to utilize this site as the terminus for the off ramps for northbound 1-280 (ESA, Vol.II, p. 199). This alternative at the China Basin Stadium site is unavailable and therefore not feasible.

#### (10) Mission Bay Development.

The Mission Bay Development is bounded on the east by Third Street and the south by Sixteenth Street. To the north and west is the China Basin estuary. For some distance, there is no development surrounding the site, with the exception of the China Basin offices on the east side of Third Street. This alternative at the Mission Bay Development site—was a feasible.

#### (H) Rail Yard South of China Basin.

The lot is an old rail yard south of China Basin and north of Central Basin. This lot appears to contain the old Santa Fe (SF) Rail Yards. Mission Rock is on the north and 1420 Fourth Street is to the northwest. Across the street to the northeast is Crowley Marine Service and Bayview Boat Club. This shape of this site is elongated and triangular. This alternative at the SF Rail Yard south of China Basin—was feasible.

#### (12) Catellus/Port Authority Site aka Western Pacific Site.

At Twenty-Fifth Street between Illinois and Michigan Streets is an empty site. The site is directly across the street (east) of the Sheedy Hoist Company. The site is rectangular in shape and identified by a chain link fence around its perimeter. Title to this property is being

transferred from Catellus to the City and County of San Francisco, to be administered through the Port Authority. This alternative at the Catellus/Port Authority site-was is feasible.

## (33) Cow Palace Basin.-Site

A deep canyon bounds the southwest corner of the Cow Palace site. It is behind the old Geneva Drive-In. If graded, there would be approximately seven acres available. To the west are new housing units under construction. The site would be closer to residential housing than the Port site, but not as close as the Innes Avenue site. However, the population density could conceivably be less than the Innes Avenue site, since the new housing appears to be single family residential. Furthermore, this site was identified by Daly City staff who encourage its use for power generation. This site was considered in conjunction with the alternative site selected by SFEC. This alternative at the Cow Palace Basin site-was feasible.

## (14) Treasure Island.

Treasure Island is a 400-acre manmade island, which is attached to Yerba Buena Island, in the San Francisco Bay. Treasure Island is currently being used as a naval station, but is scheduled to be closed October 1, 1997. At closure, the City and County of San Francisco will be the primary steward of the Island. However, federal agencies which may have priority selection of sites on the island are currently reviewing the available property.

The City and County of San Francisco is currently undertaking a scoping analysis to determine the environmental and engineering issues that may affect future development. As a naval station, there are industrial areas on the island. However, land use on the island is also intermixed with naval personnel and family housing, training schools for naval personnel, and schools for primary students, stores (commissary), and various entertainment and recreation facilities. In fact, the Island, like most military facilities, is a miniature city. The status of existing structures, and therefore the availability of any usable space in the future is currently unknown. Staff's analysis was partially predicated upon the ability to locate a powerplant

somewhere on the north side of the island. The Staff concluded that the alternative at Treasure Island was feasible.

#### (15) Hunters Point Naval Shipyard.

The Hunters Point Naval Shipyard is located at the south end of Innes Avenue or Crisp Avenue. The Shipyard encompasses 928 acres of which 495 acres is dry land. The Shipyard was purchased by the United States Navy for use in 1939, and used as a ship repair facility until the Navy discontinued this use in 1974. The Base Realignment and Closure Commission of 1991 determined that the Hunters Point Shipyard should be declared surplus and closed.

The City of San Francisco was granted an opportunity to lease a portion and possibly all of the Shipyard as a result of the 1991 Defense Appropriations Bill and a 1993 amendment to a Defense Department authorization bill which allows the City to purchase the Shipyard at less than fair market price. The Land Use Alternatives & Proposed Draft Plan Amendment to the City Master Plan and Redevelopment Project Plan for the Shipyard includes industrial uses in the south central portion of the Shipyard. Without identifying a specific three acre site, Staff focused on this general industrial area when preparing its alternatives analysis. This alternative site at the Hunters Point Naval Shipyard is feasible.

## (16) Tuntex

The Tuntex site is located immediately east of Bayshore Boulevard and west of Tunnel Avenue. The site occupies about 50 to 100 acres in the City of Brisbane. Without identifying a specific three acre site, Staff generally focused its attention in the area directly east of the terminus of Geneva Blvd. According to the Brisbane City Planner, the parcel is currently zoned C-1 mixed use/commercial and had recently been changed to include trade commercial in the General Plan. Tuntex has discussed plans for a shopping center at the site, which is the reason the City of Brisbane changed the General Plan designation for the site. However, no specific plan has been submitted for the parcel. This parcel was rezoned from Industrial Use (M-1) in

1991 to discourage industrial development. It is unlikely that the City of Brisbane would consider rezoning to allow the siting of a powerplant at this site. However, Staff did not consider this issue a fatal flaw which would render the site infeasible, and proceeded with its analysis. This alternative site at Tuntex is feasible.

#### (17) Martin Substation

The H. Martin Substation, owned by PG&E, is located on the corner of Geneva Avenue and Bayshore Boulevard in Daly City. At the southern back portion of the site there are approximately three acres of open space within the existing PG&E fenceline. This area was the focal point of Staff's alternatives analysis at the H. Martin Substation. This alternative site at the H. Martin substation—wasis feasible.

#### Hunters Point Site Redevelopment.

<u>Background</u>. On January 6, 1995, following public hearings, the Committee issued the Second ORDER RE PROJECT ALTERNATIVES; PG&E's Hunters Point Site (Alternatives Order) which directed Staff to evaluate the use of the existing Hunters Points Units 2 and 3 site as an alternative for the proposed project. The Committee perceived public concern reflected in the following questions:

- 1) "Why leave the old, more polluting, and uneconomic PG&E Hunters Point Units 2 and 3 in place, requiring a new site to be dedicated to an additional powerplant?
- 2) Why not tear down Units 2 and 3 and make that space available as an alternative site for the San Francisco Energy project?"

The Committee invited responses on whether use of the existing Hunters Point powerplant site might reduce the potential cumulative effects of the San Francisco project as an "additional" industrial project in the neighborhood, as well as any potential air quality, visual, land use, and other impacts, by "replacing" the older PG&E units with a newer, cleaner, and smaller facility.

Engineering Issues. Staff, as directed by the Committee, reported in it's analysis, that PG&E performed an engineering review of replacing Hunters Point Units 2 and 3 during the development of their IDR. This review concluded that there was insufficient physical space to site the additional generating equipment in the present location of the Units Nos. 2 and 3 boilers. Furthermore, removal of Units 2 and 3 and the subsequent (hypothetical) construction of the project on that location would result in a lack of generating capacity to meet the SFOC for at least a two year period, during demolition and construction. (PG&E May 24, 1995 response 12c.) If PG&E were to proceed with the IDR, PG&E predicts a capacity loss for only six months because it would be better able to schedule demolition and construction activities as well as operation of Unit 4.

PG&E stated during a workshop that while the boilers for Units 2 and 3 could be removed, removal of the corresponding steam turbines would also interfere with the operation of Unit 4. In addition, since the project uses fresh water and cooling towers rather than once-through Bay water for cooling, additional space would needed on-site for cooling tower placement. (FSA, Vol.II, p.204.) Staff's opinion is that sufficient space for these towers exists on the site. PG&E believes that if all the equipment associated with Units 2 and 3 were removed, sufficient space for the project would still not exist in the space currently occupied by Units 2 and 3. (third)

In response to questions, PG&E stated it believes there is sufficient room elsewhere on the Hunters Point site to accommodate the project. However, PG&E qualified its response by indicating that it had not examined whether there would be engineering or physical issues involving the use of other locations on the Hunters Point site for the project, because the matter had not been analyzed. (5/24/95 PG&E Data Responses, pp. 7-8.)

Environmental Issues. The environmental character of the Hunters Point site is similar to the Port site. Location of the project at the Hunters Point site would not meaningfully after any environmental characteristics of the project. The Commission finds that the Hunters Point site is not environmentally superior to the proposed Port site. The Hunters Point Units 2 and 3

are old, each nearing half a century in age. They are more polluting on a pounds per hour basis and less economic than a newer, more efficient powerplant like the proposed project. However, it is not a foregone conclusion that the community<sup>91</sup> would experience less pollution as the result of the project's operation at Hunters Point. While the proposed project emits less pollution per unit of fuel burned or unit of electricity generated<sup>92</sup> (i.e., it will be much more efficient and clean) compared to Hunters Point Units 2 or 3, it will annually produce more PM<sub>10</sub> in the immediate community compared to Hunters Point Units 2 and 3 due to expected differences in projected annual operating capacities.

Therefore, locally, there would be within prescribed limits, greater releases of PM<sub>10</sub> with the project than without. At limited times during the winter months, this would be in addition to levels of PM<sub>10</sub> that already exceed the state 24 hour PM<sub>10</sub> standard in the Bay Area.

The unmitigated air quality impacts of the project located at the Hunters Point site would be less than the PG&E repower alternative and the same as the Port site since the project located at Hunters Point would probably not have the benefit of obtaining emission reduction credits from the shut-down of Units 2 and 3 and would presumably use cooling towers and the proposed cooling water source. On the other hand, unmitigated water and biological resources impacts from the project located at Hunters-Point would be less than the repowering alternative and comparable to the Port site since it is assumed to utilize the same water source as proposed.

Policy-Feasibility Issues. In response to the Committee's question of "Why not tear down Units Nos. 2 and 3 and make that space available as an alternative site for the San Francisco Energy Project?", PG&E responded:

<sup>&</sup>lt;sup>91</sup> This is a brief discussion of the air emissions from the three powerplants in the immediate community only. It is not an analysis of the PG&E system emissions with the addition of the SFEC project. Please see the AIR QUALITY section of this document for a system-wide analysis.

<sup>&</sup>lt;sup>52</sup> The emissions rate for the SFEC project is expected to be 0.00014 lbs NO<sub>4</sub>/kWh, while Hunters Point Unit 3 would omit 0.005 lbs NO<sub>4</sub>/kWh, almost 30 times higher

The use of the Hunters Point Powerplant site was expressly ruled out in the BRPU solicitation and therefore this is not within the scope of the San Francisco Energy project. Whether PG&E would voluntarily allow the use of its plant site is speculative since it involves an option which is not within the BRPU solicitation that brought the project before this commission. (PG&E May 24, 1995 Response 12b.)

During the May 24, 1995 workshop on alternatives, PG&E also raised several policy issues related to allowing a private developer to use an operating powerplant site owned by PG&E.

PG&E emphasized that there is no language in the Public Resources Code or Public Utilities Code which grants to either the Commission or the CPUC the authority to require a utility to allow the use of its properties for construction of generation by other entities. PG&E also identified policy issues that would need to be resolved prior to allowing third party use of a utility site including transfer of asset value, rate-payer impacts and reimbursement, shareholder impacts and reimbursement, liability, access, operational integration and working relationship agreements.

According to Staff, the CPUC staff did not have a direct opinion on this issue. The Commission recognizes that these problems concerning site control create a significant feasibility uncertainty. However, they directed our attention to the CPUC's 1992 Decision Re Biennial Resource Plan Update in which the CPUC found that the Final Standard Offer 1 procedure captures the coonomic benefits of using existing equipment and transmission lines at an already existing developed site. The low cost of repowering at an existing site is reflected in the IDR's lower costs compared to other resource options, and it is these lower costs that become the benchmark against which a QF bids. (D.92 04 045, 44 CPUC 2d at 60.)

The Commission does not consider the use of the specific site of the Hunters Point Units 2 and 3 site as a feasible alternative to the project because of engineering and operational concerns: insufficient space, disruption of Unit 4, and potential non-compliance with the SFOC during construction.

Intervenor Alternative Sites. Following the issuance of the PSA, several alternative sites were identified by the public or the Intervenors. Hunters Point Naval Shipyard was identified by a San Francisco Redevelopment Agency Commissioner. Additionally, the Presidio, Alcatraz Island, Treasure Island, the Oceanside Water Pollution Control Plant, and a Sloat Boulevard lot were identified by Intervenors. The Presidio and Alcatraz Island were eliminated due to inconsistency with the Golden Gate National Recreation Area planned uses. The Oceanside Water Pollution Control Plant was eliminated due to approved plans by the San Francisco Zoo to use the location for mammal and avian conservation centers. The Sloat Boulevard site has a pending permit application for a planned unit development and is otherwise too small. (FSA, Vol. II, p. 196.) APPENDIX: ALTERNATIVES contains more detailed discussion of these eliminated sites. The Hunters Point Naval Shipyard site and Treasure Island site were found to be feasible in discussions above.

<u>Conclusion</u>. Based upon a review of all environmental issue areas, locating the project at one of the alternative sites would not reduce or eliminate a significant impact associated with the project since from an environmental impact perspective, the project's impacts have all been adequately mitigated. Furthermore Nor, based upon Staff's comparative analysis, do any none of the alternative sites appear on balance to be environmentally superior.

# Alternative Technology.

Alternative technologies were suggested by various parties as a means of providing electricity to the San Francisco Peninsula. Staff reviewed the Commission's electricity planning process and any direction given to PG&E regarding alternative technologies. That process, and the major alternative generating technologies available in California, are discussed below.

Every two years the Commission reviews the commercial status and estimated cost of alternative technologies, including renewable options. This review occurs as part of the Commission's preparation of three major policy documents: the ER, the Energy Development Report (EDR), and the Energy Technology Status Report (ETSR) processes.

The Commission determines the need for new electric generation resources in the ER. In the ER. There the Staff evaluates regional resource plans to meet—the need, keeping in mind California's long-term electricity policy concerns such as improving air quality. The EDR focuses on trends for new energy technology development and the best options for meeting future energy needs;—while the ETSR examines the commercial status of various energy technologies. Findings from the EDR/and ETSR processes are incorporated into the ER through policy choices which include the most promising renewable technologies in regional resource plans. These analytical report processes provide the public and the energy industry with a comprehensive summary of the Commission's efforts to ensure a secure, diverse mix of energy technologies in California.

During the ER 92 process, the Commission determined that a specific allotment of renewable resources should be set aside to ensure continuing diversity of electric generation resources. During the current era of relatively low natural gas prices, the Commission declared that a mix of resources is prudent to ensure that California does not become overly reliant on gas. In this context, the Commission recommended that Pacific Gas and Electric (PG&E) acquire 22.5 MW from wind generation sources in 1998. Given PG&E testimony regarding its upcoming need for a reliable power supply on the San Francisco Peninsula, the Commission also determined in ER 92 that PG&E would need 221 MW in 1997 from a repowering of Hunters Point Units 2 and 3, or from another project with a lower cost than the repowering.

As part of its alternatives analysis, Staff compared various alternative technologies, scaled to meet the project's objectives, with the proposed project, by examining the principal electricity technologies which do not burn fossil fuels such as natural gas. The technologies which could serve as alternatives to the proposed project are geothermal, solar, hydroelectricity, and wind. Each of these technologies could be attractive from an environmental perspective because of the absence or reduced level of air pollutant emissions, including PM<sub>10</sub>.

There are no geothermal resources on the San Francisco peninsula. Solar, wind, and hydro-electricity resources require large land areas, which are lacking on the San Francisco

peninsula, in order to generate 221 megawatts of electricity. Specifically, centralized solar projects using the parabolic trough technology require approximately 5 acres per megawatt; 221 megawatts would require approximately 1,100 acres. Photovoltaic arrays require similar acreage per megawatt. Furthermore, the peninsula does not have enough sunny days for generating this amount of electricity. Centralized wind generation areas generally require 40-50 acres per megawatt, with 221 megawatts requiring 8,800-11,000 acres. Large hydroelectric facilities generating 50-250 megawatts would inundate at least 1,000-2,000 acres with water. The acreage requirements are large even if the 221 megawatts were to be generated incrementally at separate sites, with a single technology or a combination of technologies such as solar, hydroelectric or wind. (FSA, Vol. II, p. 183.)

The alternative technologies discussed above have the potential for significant land use and visual impacts. Therefore, these options would not reduce the potential for significant adverse impacts of the proposed project. Furthermore, when developed on a centralized basis, the alternative technologies have the potential for other significant impacts not relevant to the project, such as disturbance of sensitive wildlife species and their habitats.

Geothermal, solar, wind, and hydroelectricity resource areas in other California regions would be located a considerable distance from the San Francisco Peninsula. The potential for new geothermal generation in California is quite limited. The Known Geothermal Resource Area in Sonoma and Lake Counties is on the decline. The established Coso area in Inyo County and the new Medicine Lake area in Siskiyou County both offer some opportunity, but the potential for developing 221 megawatts in either area is very uncertain. (FSA, Vol. II, p. 183.)

Currently, there are no plans for utility scale solar or hydroelectric development in California. Distributed applications such as residential or commercial solar photovoltaic collectors, or small hydroelectric generators are equally speculative with a multitude of sites currently scattered throughout the state. The generating capacity of individual units of this type is extremely small. Such minimal capacity precludes a collection of them being located in such a way that would provide a small percentage of 221 megawatts. For example, at 10 kilowatts

per individual unit it would take 22,100 units to comprise the equivalent output of the proposed project.

Ninety five percent of all the wind generation in California takes place at three locations: 41 percent at Altamont, east of Livermore; 38 percent at Tehachapi, east of Bakersfield; and 16 percent at San Gorgonio, north and west of Palm Springs. Of all these areas, the Commission believes that the Tehachapi area has the most, albeit modest, potential for increasing capacity. However, since wind is a variable resource which is not available all the time, it does not appear to meet PG&E's need for a highly reliable source of power. Furthermore, as a remote resource, the Tehachapi wind option and any geothermal, solar, or hydroelectric option would require a long transmission connection, with accompanying environmental impacts.

##

III

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The major potential impacts of the four renewable technologies examined in this analysis, plus the potential impacts of a new transmission connection from remote resource areas are summarized below:

TECHNOLOGY	POTENTIAL ENVIRONMENTAL IMPACTS		
Geothermal	Biology (e.g., habitat disturbance), noise visual, air quality, water quality, conflicts with existing and planned land uses, depleting geothermal resources.		
Wind	Biology (e.g., raptor collisions), noise, visual, conflicts with existing and planned land uses.		
Solar-Parabolic Trough	Biology, conflicts with existing and planned land uses, visual.		
Solar-Photovoltaic	Biology, conflicts with existing and planned land uses, visual		
Hydroelectric	Biology, conflicts with existing and planned land uses, visual		
Transmission Lines	Conflicts with existing and planned land uses, visual, biology, soil erosion (depending on terrain)		

In January 1994, as part of the development of the draft 1994 ER, the Commission staff estimated costs for the above renewable options as shown below:

TECHNOLOGY	ESTIMATED COST (\$/Dependable kW without transmission costs)	
Geothermal	3200	
Wind	863	
Solar-Parabolic Trough	2921	
Solar-Photovoltaic Concentrator (commercial availability at utility scale not expected until 2000)	2156	
Hydroelectric	Not estimated	

The Staff estimated the cost of a PG&E repower to be approximately \$679 per dependable kW. SFEC beat PG&E's price in a resource auction, the BRPU, conducted by the CPUC in late 1993.

The technology for developing 221 megawatts from distributed, small scale solar, hydroelectric or wind facilities<sup>93</sup> is commercially available. However, the time required to find a multitude of distributed sites sufficient to produce 221 megawatts, address potential environmental impacts, and secure permits would be substantial. These timing and logistical challenges preclude the distributed options as practical alternatives, assuming that the power must be available by the proposed project's operating date of June 1997.

The lack of large land areas on the San Francisco peninsula, the development uncertainty, and potential for other impacts at remote resource areas are significant constraints. Therefore, geothermal, solar, wind, and hydroelectric technologies do not present any feasible alternatives to the proposed project.

Additional hearings on small scale distributed generation alternatives were conducted on September 12, 1995. Based on Staff testimony, batteries and fuel cells are not commercially available on a sufficiently large scale to achieve the project objectives. Also, in the case of batteries, there is a recharge requirement which cannot be met without local generation. (Staff's 9/5/95 written testimony, pp. 2-3.)

Smaller gas-fired combustion turbines could be dedicated to electricity production only, thereby giving up the added efficiency of cogeneration. In order to cogenerate, these facilities would require water for steam and cooling. Distributed turbine cogeneration essentially creates a handful or more of miniature versions of this project. Miniaturization has limits, below which the generating output of the facility may be reduced, but the size of the facility is not reduced.

<sup>&</sup>lt;sup>93</sup> Geothermal resources in California are relatively limited. Therefore, they have been excluded from the small scale distributed generation discussion.

Staff estimates the likely minimum site size to be on the order of 2 acres for a 50-60 MW cogeneration project. (9/12/95 Woo/Davis, p. 4.) At some point, the total land used for more small scale cogenerators exceeds the size of site for a single project.

In addition to requiring a suitable site, each small scale cogeneration project would burn natural gas, cause emissions, consume water, require water lines, gas lines, perhaps steam lines, transmission lines and switching facilities.

There are also economies of scale, allowing the larger 200 MW size project to generate for about half the cost per kilowatt as a 10 MW facility. (9/12/95 Woo/Davis, p. 6.) Thus, small scale distributed generation is not a feasible alternative to the project.

#### FINDINGS AND CONCLUSIONS

Based upon the weight of the evidence in the record, the Commission finds as follows:

- 1. No Project Alternative. The No Project alternative is feasible until 2001. However, after 2001 the No Project alternative is not feasible has significant negative public consequences. If this project or an alternative is not built, PG&E will not have sufficient electric generation resources which can be relied upon to meet the SFOC under all conditions when PG&E's Hunters Point Units 2 and 3 are restricted by the Bay Area Air Quality Management District (BAAQMD) rules to operating at no more than a four percent annual operating capacity after December 31, 2000.94
- 2. If the proposed project's impacts are mitigated in accordance with the Conditions of this Decision, the various permutations of the No Project alternative (increased local generation, upgrading/expanding transmission line capacity, etc.) which are speculative at this time, would not reduce or eliminate any potential significant adverse impacts of the proposed project.
- The Conditions of Certification contained in this Decision ensure that all project impacts will be mitigated to a level of insignificance.

<sup>&</sup>lt;sup>94</sup> Unless PG&E takes steps to retrofit Hunter Point Units 2 and 3 to meet the BAAQMD emission rules effective January 1, 2001.

- <u>Sometrial</u> Public Resources Code section 25305(c) limits the scope of alternatives analysis during a siting case, if conservation, load management, or other demand reducing measures reasonably expected to occur are explicitly examined in the Commission's ER. The analysis herein is for informational purposes to show both the process and substantive result of the Commission's review of conservation measures related to electricity demand and the siting of generation facilities.
- 4§. Alternative Technologies. The lack of large land areas on the San Francisco peninsula, the development uncertainty, and potential for other impacts at remote resource areas are significant constraints. Therefore, geothermal, solar, wind, and hydroelectric technologies do not present any feasible alternatives to the proposed project. Small scale distributed generation, providing 221 MW, would likely increase land use impacts, would not otherwise reduce facility infrastructure impacts, and is not presently economic compared to the project.
- 56. <u>Transmission System Alternatives</u>. A transmission upgrade on the Peninsula is not a feasible alternative since it cannot meet the reliability requirements of PG&E's SFOC.
- 67. Based upon the potential land use impacts, biological and visual resource impacts, and public concern regarding electric and magnetic fields (EMF), it appears unlikely that transmission system upgrades would be an environmentally superior alternative to the proposed project if the proposed project's impacts are mitigated in accordance with this Decision. Consequently, transmission system upgrades to the PG&E system between the San Mateo and H. Martin substations would not lessen or eliminate any potentially significant adverse environmental impacts of the proposed project.
- Alternative Sites. The suspension of the review of the Innes Avenue site eliminates one of the alternative sites to which the Port site is compared. The current proposal to develop the project on the Port site is the result of this site having been identified as environmentally superior to the originally proposed lines Avenue site during the Commission's site certification process.
- 89. Eleven alternative sites were identified that appear able to accommodate the project. However, the project impacts have all been adequately mitigated through Conditions imposed in this Decision, when located at the Port site. These project-specific impacts are similar whether the project is located at SFEC's proposed site or any of the alternative sites. Therefore, IL ocating the project at any of the alternative sites does would not provide a benefit by eliminating or avoiding a significant adverse impact. None of the alternative sites are environmentally superior to the proposed site.
- 410. Hunters Point Existing Site Redevelopment. The use of the specific site of the PG&E's Hunters Point Units-Nos. 2 and 3 site is not a feasible alternative to the project because of engineering and operational concerns: insufficient space, disruption of Unit 4, and potential non-compliance with the SFOC.

#### CONDITIONS OF CERTIFICATION

None.

## AIR QUALITY [NEW]

#### 1. Introduction.

Impacts from regulated air pollutants are a major concern in the siting of any fossil fuel fired electric generation project. To assess the potential impacts of the proposed project on air quality, the Commission examined: (1) the existing ambient or background concentrations of air pollutants; (2) the project's emissions; and (3) the project's impacts on ambient emissions. How a project will affect existing conditions depends on many factors in addition to the project's emission rates. The most important other factors are the location of the project, local wind speed and direction, climatic conditions, and worst-case meteorological conditions.

The extensive air quality evidence considered in this proceeding includes the testimony of the Bay Area Air Quality Management District (BAAQMD or District), San Francisco Energy Company (SFEC), the Commission staff (Staff), and Intervenors' witnesses.

Local air districts have a unique role in the Commission's powerplant siting process. They issue a separate report evaluating compliance with state and federal air quality law, and adopt conditions for the operation of the power plant which the Commission in turn subsequently adopts as its own conditions. This unique role derives from the local air districts' duty to enforce both federal and state air quality laws.

The Commission reviews the work of the local air district and adopts the conditions contained in its the District's Final Determination of Compliance (FDOC). In addition, as the lead agency under the California Environmental Quality Act (CEQA), the Commission must determine whether any of the air quality impacts are "significant." If the air quality impacts are significant, the Commission must then consider whether there is feasible mitigation to attenuate the impact.

For the SFEC project, the nature and magnitude of impacts on air quality were strongly contested in voluminous testimony that required multiple days of hearings. The evidence included the results of computer modeling for the proposed project's emissions as well as for the operating characteristics of the PG&E generating system. The FDOC issued by the Bay Area Air Quality Management District (BAAQMD or District)—has concluded that, so long as the project provides the pollutant emission offsets required in its conditions, the project is in compliance with federal and state emissions requirements. However, that determination does not address the issue that the Commission must address as the CEQA lead agency: do the project's emissions—in particular those for ozone and PM<sub>10</sub> (particulate material less than 10 microns)—result in a significant adverse effect to air quality?

Supplying an answer to the above question is made more difficult in that (1) there are no agreed upon criteria for "significance," (2) air quality evidence is complex and sometimes subject to interpretation, and (3) the approach used to analyze air quality impacts usually places heavy emphasis on "worst case" impact assumptions which may not accurately reflect the actual or probable impacts of the project. These difficulties are illustrated in the summary of the evidence that follows.

#### 2. Summary of the Evidence.

#### a. BAAQMD Evidence

BAAQMD has primary responsibility for the administration of both federal and state air quality protection laws for stationary (industrial) sources. (Clean Air Act, §§ 160-169A, 42 U.S.C., §§ 7470-7491; 40 CFR Part 52; Cal. Health & Saf. Code, §§ 40000, 40200 and 40201.) The United States Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have respective review authorities and responsibilities in connection with the regulatory actions of the BAAQMD.

At the evidentiary hearing on July 20, 1995, the District presented its Preliminary Determination of Compliance (Preliminary DOC) discussing the project's compliance with all applicable laws, ordinances, regulations and standards. BAAQMD found that SFEC has satisfied all applicable District permit requirements. (7/19/95 RT 130:7-139:18)

#### (1) Best Available Control Technology

Based upon New Source Review (NSR) requirements, SFEC will use Best Available Control Technology (BACT) to reduce project emissions, including specifically:

- selective catalytic reduction (SCR) with ammonia injection to reduce nitrogen oxide (NO<sub>x</sub>) emissions;
- oxidizing catalyst to abate carbon monoxide and precursor organic compounds (POC);
- low-NO, burners to reduce NO, emissions; and,
- exclusive use of clean fuel (natural gas) to minimize sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub>), and toxic compound emissions.

#### (2) Project Emissions

AIR QUALITY TABLE 1 summarizes the maximum project criteria pollutant emissions. The total emissions in tons per year are used to determine if the Prevention of Significant Deterioration (PSD)<sup>96</sup> requirements of the NSR have been triggered for each pollutant. The

<sup>\*</sup> The BAAQMD presented its Final DOC (FDOC) at the September 12, 1995 hearing dated Movember 1, 1995.

The federal PSD program applies to pollutants for which the District is either in attainment or "unclassifiable". PSD requirements include, among other things, modeling of project impacts.

The federal NSR program applies to pollutants for which the District is in non-attainment. NSR requirements include, among other things, offsets for increases in criteria pollutant emissions.

project will emit less than 100 tons/year (tpy) of each of the aforementioned pollutants. As such, the project does not have to comply with the PSD requirements.

AIR QUALITY TABLE 1

Maximum Facility Criteria Pollutant Emissions

Criteria Pollutant	tons/year
Nitrogen Oxides (NO <sub>x</sub> )	97.612
Carbon Monoxide (CO)	85.3
Precursor Org. Comp.(POC)	42.64
Particulate Matter (PM <sub>10</sub> )	49.745.4
Sulfur Dioxide (SO <sub>2</sub> )	6.77

(Source: FDOC, Table B-14, p. B-18. Note: The numbers in AIR QUALITY TABLE 1 may exceed the numbers in the Conditions of Certification, as they include exempt sources.)

#### (3) Emission Offsets

Pursuant to District Regulation 2-2-302, federally enforceable emission offsets are required for NO<sub>x</sub> and POC emissions in accordance with AIR QUALITY TABLE 2 below:

AIR QUALITY TABLE 297

	NO <sub>x</sub>	СО	POC	PM <sub>10</sub>	SO <sub>2</sub>
Total Annual Project Emissions	97. <del>16</del> 2	85.2	42.6	44.6740.37	6.74
Req'd Offsets	YES	NO	YES	NO	NO
Offset Ratio	1.15:1	N/A	1.0:1.0	N/A	N/A
Offsets (tons)	111.73	N/A	42.6	N/A	N/A

(Source: FDOC, Table C-1, p. C-1.)

Pursuant to District Regulation 2-2-302, SFEC is allowed to obtain 112.6 tons per year (tpy) of POC emission reduction credits to offset the 97.462 tpy NO<sub>x</sub> emission increase associated with the project. Under Regulation 2-2-302, the District will provide emission offsets for the POC emission increase of 42.6 tpy from the District Small Facility Banking Account since SFEC proposes BACT for NO<sub>x</sub> and POC. Pursuant to Regulation 2-2-303, emission offsets will not be required for PM<sub>10</sub> and SO<sub>2</sub> because this facility is projected to emit less than 100 tpy of these substances.

#### (4) Health Risk Assessment

A health risk screening analysis was conducted by BAAQMD for carcinogenic and toxic compound emissions. The carcinogenic compounds emitted from this facility include benzene, formaldehyde, and polycyclic aromatic hydrocarbons (PAHs) including benzo(a) anthracene and benzo(a)pyrene. The total increased cancer risk to the maximally exposed individual was found

Difference from Air Quality TABLE 1 is due to deduction of cooling tower and pump diesel engine emissions. (See FDOC Table B-14.)

to be 0.58 in a million (less than one in one million) based upon air dispersion models ISCST2 and COMPLEX1. The models are approved by the CARB. (FDOC, p. 11.)

The toxic compounds emitted by the facility include ammonia and toluene. The health risk due to toxic compounds is quantified through a number called the acute hazard index, which was found by the District to be 0.005 for ammonia and toluene. The increased acute hazard index due to toxic compound emissions was less than one. According to the District's Risk Management Policy, the increased risk from the project is deemed not to be significant. (FDOC, p. 11.)

#### (5) Further Testimony

Offsets of NO<sub>x</sub> emissions are required at a ratio of 1.15 to 1. (7/19/95 RT 138.) By requiring more offsets than new allowed emissions you are assured of no net increases in the air basin. (7/19/95 RT 166.) In addition, existing emission sources are continually "ratcheted down" to reduce emissions overall. (*Ibid.*) On cross-examination, the BAAQMD witnesses acknowleded that there were apparent exceedences of the federal ozone standard in Livermore in 1994-95. (7/19/95 RT 150.)

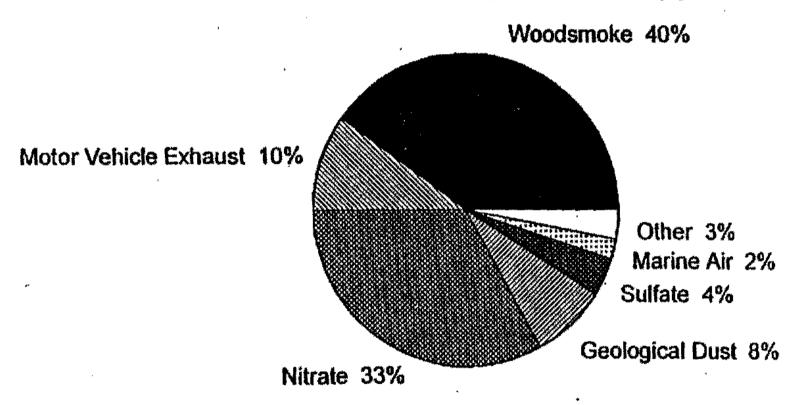
The BAAQMD has experienced no recent exceedences of the less stringent federal PM<sub>10</sub> standard. Even so, federal law requires BAAQMD to review the project for compliance with Prevention of Significant Deterioration (PSD) requirements. PSD review requires modelling of any sources exceeding 100 tons/year of PM<sub>10</sub> emissions. Since the project is permitted to emit less than 50 tons/year, no modelling or offsets were required by BAAQMD. (FDOC, p.11.)

BAAQMD requested that the Commission take official notice of District Rule 2-2-233, which was described by BAAQMD counsel as the District's definition of "significant air quality impact." (9/12/95 RT 193-195.) For PM<sub>10</sub>, a "significant air quality impact" is one greater than 1.0  $\mu$ g/m<sup>3</sup> annual average, or greater than 5.0  $\mu$ g/m<sup>3</sup> on a 24-hour average basis. (*Ibid.*) The

title of rule 2-2-233 is "Significant Air Quality Impacts, PSD," indicating that the standard in question is related to Prevention of Significant Deterioration review by the District.

In its comments on Staff's comments on the Presiding Member's Proposed Decision, BAAQMD stated that (1) it concurs "that there is no persuasive evidence that the PM<sub>10</sub> emissions from the proposed SFEC project will result in any adverse health effects"; (2) primary sources of PM<sub>10</sub> emissions causing violations are residential wood burning, motor vehicle exhaust (particularly diesel), and nitrate (see AIR QUALITY Figure 1); (3) "the clean fuels requirements of the [CARB] which will be coming into effect next year will result in significant reductions of PM<sub>10</sub> emissions from motor vehicles; (4) "a more accurate understanding of the mechanisms of secondary pollutant formation and of the actual nature of the PM<sub>10</sub> problem would lead one to answer that question [the issue of a significant impact under CEQA] in the negative"; (5) project PM<sub>10</sub> emissions are "insignificant" and will not exacerbate any exceedences of the PM<sub>10</sub> standard; and (6) "the nature of any 'impacts' of PM<sub>10</sub> emissions from a project such as the proposed SFEC facility are too speculative and lacking in substance to justify the imposition of mitigation measures above and beyond the use of [BACT]." (BAAQMD Comments on PMPD, 12/6/95, pp. 1-4.)

# Contributions to Ambient PM10 Concentrations by Source Type



Note: 97% of Ambient PM10 levels accounted for in Bay Area, during wintertime studies conducted by BAAQMD.

Source: BAAQMD Data

#### b. Commission Staff Evidence

Staff provided evidence on the ambient air quality for criteria emissions in the most recent years for which data was officially available. Both federal and state ambient air standards have in recent years been met as measured locally for ozone, nitrogen dioxide, carbon monoxide, sodium dioxide, sulfates, and lead. (FSA, pp. 76-77.) As for PM<sub>10</sub>, there is no violation of the federal 24-hour standard or annual average standard, nor of the state annual average standard. However, the District has not reached "attainment" of the more stringent state 24-hour standard, in that periodic violations occur in the project region. (*Ibid.*)

Ozone is not a project emission, but is formed secondarily in the atmosphere many miles downwind as the result of meteorological conditions and chemical reactions. (FSA, p. 78.) Nitrogen oxides (NO<sub>x</sub>) and hydrocarbons (VOCs) are "precursor" emissions that interact in the presence of sunlight to cause ozone. Prevailing winds are from the west; ozone precursors from the project will usually have their impact to the east and southeast. (*Ibid.*) Ozone levels have declined significantly in the Bay Area in recent years; as a result BAAQMD has requested that EPA redesignate the District as in "attainment" for the federal ozone standard. (FSA, p. 80.) Staff stated that the project's impact on ozone was less than significant because (1) it will not adversely impact ambient ozone levels, (2) the trend in ambient ozone levels is improving, (3) BAAQMD requires, and is requiring for this project, offsets for emissions that are ozone precursors. (FSA, p. 119.)

"Particulate matter less than ten microns" (PM<sub>10</sub>) can be directly emitted from a source ("primary" PM<sub>10</sub>). Alternatively, like ozone, "secondary" PM<sub>10</sub> is formed many miles downwind from the sources of emissions as the result of the interaction of various gases in the atmosphere. (FSA, p. 80.) NOx, SO2, and VOCs (also called "POCs") are precursors of secondary PM<sub>10</sub>.

<sup>&</sup>lt;sup>98</sup> Federal redesignation of the District as in attainment for the federal ozone standard has recently occurred. (7/20/95 RT 23.)

PM<sub>10</sub> violations are seasonally related and dependent on meteorology--they usually occur in the autumn or winter months, during winds that do not conform to the prevailing pattern. (FSA, pp. 81-82.)

Construction PM<sub>10</sub> impacts are unavoidable, of short duration, and similar to those common to any industrial construction activity. (FSA, p. 107.) These construction PM<sub>10</sub> emissions will be reduced by a variety of measures, including equipment maintenance, water spraying, dust suppressants, and use of low-sulfur diesel fuel. (*Id.*, at p. 126.)

The principal contributors to PM<sub>10</sub> are residential wood burning, vehicle exhaust, and ammonium nitrate (secondary PM<sub>10</sub> resulting from the chemical reaction of ammonia and NOx emissions). (*Ibid.* [see Figure 1].) The recorded data indicate a downward trend in both the frequency and magnitude of PM<sub>10</sub> violations at Bay Area monitoring stations. (FSA, p. 81 [see AIR QUALITY Figure 2].)

Staff testified that the impact of the project is a significant adverse impact because (1) the District experiences violations of the state 24-hour standard, and (2) computer emission dispersion modeling of worst-case conditions indicates that project emissions will have a localized impact that will be greatest on hills that lie two to three miles west of the project. (FSA, pp. 124-125.)

Staff did its analysis, which included the use of CARB and EPA approved computer models, assuming that the project would emit the District's maximum permitted emissions-45.6 tons/year. (Final Staff Comments on Proposed Dec., Nov. 27, 1995, p. 4.) In actuality, the project is expected to emit approximately *one-third* of the emissions permitted. (*Ibid.*) "Taken together, use of conservative emissions levels and the conservative nature of the models create a result that represents the very worst potential impacts of the project. They *do not* represent the likely day to day impacts of the project." (*Ibid.* [emphasis in original].)

To mitigate this impact, Staff urges the resodding of two playgrounds in the vicinity of the project, which it calculates will provide a total of 51.3 tons/year reduction in PM<sub>10</sub>. (Final Staff Comments on PMPD, Nov. 27, 1995, p.5.) EPA has validated Staff's calculations regarding resodding PM<sub>10</sub> reduction. (Id., at p. 6) Reduction of PM<sub>10</sub> through resodding should more than offset project emissions, because playground dust has a low plume height (i.e., it blows around near the ground, and is therefore easily inhaled), while project emissions have a "very high plume rise due to the temperature and velocity of the exhaust gases." (Id., at p. 6.) Staff stated that Intervenors' comparison of project emissions to diesel bus emissions is misleading in that diesel emissions contain more harmful constituents and are dispersed at street level, while power plant emissions are broadly dispersed at much lower concentrations due to stack height and stack gas velocity. (Id., at p. 8.)

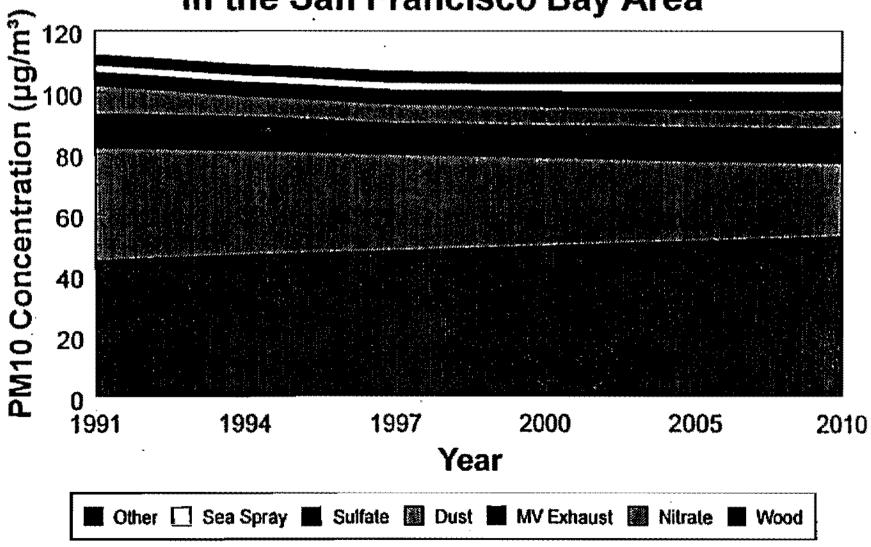
With regard to the issue of whether the project would "displace" less efficient power plants in the air basin, thus indirectly causing air quality to improve, Staff provided results based on ELFIN computer modeling projecting future emissions with and without the project. (FSA, Appendix F.) Staff testified that the computer projections for such displacement are highly dependent on what assumptions are made about the PG&E system if the project is not built. (7/20/95 RT, 159-161.) Staff modeling and PG&E planning has previously assumed the completion of the project; what to assume if it is not built is highly uncertain, and PG&E has not committed to any generation or transmission alternative. (*Ibid.*)

The Staff modeling assumed that if the project is not built, no additional generation would occur on the San Francisco peninsula, a simplifying assumption that may understate the emissions displacement of the project. (Id. at p. 161.) With this assumption, the Staff's modelling indicates that (1) the project would result in an average of 26 tons/year of additional direct PM<sub>10</sub> in the air basin for all years modeled; (2) the project will result in the average net reduction of PM<sub>10</sub> precursors for virtually all modeled years, with an average reduction of 132 tons/year for all years modeled. (See FSA, Appendix F; Rubenstein 7/12/95, Attachment 1.) The Staff anlysis shows that displacement reduction of PM<sub>10</sub> and its precursors would be highest

in the early years (277 tons/year in the year 2000), and declining in later years (24 tons/year in 2010). (*Ibid.*) Overall, the Staff modeling shows regional project displacement of PM<sub>10</sub> and its precursors is considerably greater than the project's contribution to these emissions. (*Ibid.*)

The PG&E Hunters Point power plants are less efficient (and more expensive to operate) than the project, and PG&E has stated its intent to place them in reserve in the year 2000, assuming the project is built. (*Id.*, at p. 164-166.) If the project is not built, Hunters Point Units 2 and 3 would probably continue to be operated up to an annual four percent capacity factor (the capacity factor at which they are allowed to operate without expensive retrofits for air quality); the displacement of these emissions was not credited to the project in the Staff analysis. (*Ibid.*)

Staff testified that with the proposed conditions there will be no contribution to a significant air quality impact as a result of project start-up. (9/12/95 RT 326-327.)



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#### c. SFEC Evidence

SFEC's witness provided testimony that, consistent with the FDOC, the project meets all applicable state and federal laws and regulations and, in addition, that it will not result in any significant air quality impacts. (7/20 RT 15-16.) On occasion, the BAAQMD has experienced exceedences of the ambient air quality standards for ozone, PM<sub>10</sub>, and carbon monoxide (CO). CO violations have no relevance to this project because violations are almost exclusively associated with motor vehicles and residential wood burning, both of which emit pollutants relatively close to the ground; the project emissions will be high in the atmosphere, and are so minimal that, when ambient CO levels are high, less may be emitted in the plant's exhaust than is taken in with inlet air. (Rubenstein 7/12, p. 12-13.) Both state and federal CO standards are generally met in the Bay Area (AFC, pp. 5.1-28 through 5.1-34); the last San Francisco violation of the state 8-hour standard was in 1982. (Ibid.)

With regard to ozone, BAAQMD has required SFEC to provide full emissions offsets for ozone precursors. (Rubenstein 7/12/95, p.4.) These offsets will result in a net reduction in the emissions of ozone precursors. (*Ibid.*) BAAQMD has recently been redesignated as "attainment" for the federal ozone standard. (7/20/95 RT 23.) Data indicating there may have been recent exceedences of that standard in Livermore is no indication of the ineffectiveness of BAAQMD's efforts to abate ozone. (*Ibid.*) BAAQMD's plan has contingency measures required by EPA which principally focus on the control of NOx emissions (which are ozone precursors) from industrial facilities in the Bay Area. (*Ibid.*)

SFEC used production cost modeling to estimate how the project would affect overall net Bay Area emissions of ozone precursors. The SFEC witness presented testimony that the project's displacement of other Bay Area generation will greatly reduce the amount of ozone precursors—an average of 185 tons/year from 1997 to 2010. (7/12/95 Rubenstein, p.6, Table 1, column "SFEC Cum. Impacts" [as corrected by errata presented at 7/20/95 hearing, p.6].)

#### (1) PM<sub>10</sub> is a regional rather than local problem.

With regard to PM<sub>10</sub>, SFEC testified that the Staff mistakenly treats PM<sub>10</sub> as a localized impact, when in fact it is, like ozone, a *regional* problem. (Rubenstein 7/12/95, pp. 13, 17.) BAAQMD analyses show that the chief contributors to PM<sub>10</sub> levels are residential wood burning, motor vehicle exhaust, nitrate, and geological dust. (Rubenstein 7/12/95, pp. 8-11, Figure 1.) The PM<sub>10</sub> contribution of stationary sources such as the project are, even in the aggregate, so small as to have no measurable effect on ambient PM<sub>10</sub> levels. (Rubenstein, 7/12/95, pp. 9-10.) Traditional air quality planning to address this kind of regional problem is based on annual emissions inventories or broad seasonal averages which reflect variations in weather related to motor vehicle exhaust, evaporative emissions, use of wood in residential fireplaces, and similar activities. (Rubenstein 7/12/95, pp. 10-11.)

California's regulatory strategies for these pollutants are for entire air basins, such as that of BAAQMD; they are based on reducing average annual emissions, and there are no restrictions with regard to where in the basin offsets may be obtained because the problem to be addressed is regional. (Rubenstein 7/12/95, p. 13.) "There is no technical basis that a net increase in emissions of ozone or PM<sub>10</sub> precursors at the Facility site will result in localized air quality impacts, since the photochemical reactions which produce ambient concentrations take several hours to occur." (*Ibid.*) The settling time for the PM<sub>10</sub> emissions—one to three days—is the result of plume buoyance, and means that the impact from the emissions will not be in the project vicinity. (9/12/95 RT 204-205.)

Regional problems like PM<sub>10</sub> should be addressed programmatically, and BAAQMD has done so with a variety of measures that are a mixture of educational and regulatory approaches: encouraging the cessation of wood burning during winter peak PM<sub>10</sub> conditions, reduction of vehicle miles traveled, reduction of PM<sub>10</sub> precursor emissions through NSR and PSD review required for stationary sources, and restrictions on activities generating non-combustion PM<sub>10</sub>. (Rubenstein 7/12/95, p.3; Response to Staff Data Request AQ-34, 2/22/95.)

The SFEC witness criticized the Staff analysis for ignoring the regional character of the PM<sub>10</sub> problem and stating, without substantiation, that PM<sub>10</sub> violations in Hunters Point are locally generated. (Rubenstein 7/12/95, pp. 16-17.) Further, the Staff "failed to acknowledge more recent BAAQMD studies of the nature of PM<sub>10</sub> violations in the Bay Area [that are part of the record] which identify a relatively consistent pattern at locations ranging from San Jose to San Francisco, and Livermore and Bethel Island. By overlooking these essential considerations, the Staff fails to recognize the true origins and the regional nature of ambient PM<sub>10</sub> in the Bay Area. This information is critical in making an informed decision regarding the impacts of the [project] on ambient PM<sub>10</sub> levels." (Id., at p. 17.) The PM<sub>10</sub> levels throughout the Bay Area are regional in nature; there is no evidence that PM<sub>10</sub> levels in Hunters Point are unusually high; ambient PM<sub>10</sub> levels are the result of regional emissions and photochemical reactions; no PM<sub>10</sub> "hot spots" have been identified in the Bay Area related to industrial activity. (Rubenstein, 7/12/95, p. 25.) The state 24-hour PM<sub>10</sub> standard has been violated in every county in California except Lake County. (7/20/95 Rubenstein RT 30.)

III

III

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#### AIR QUALITY TABLE 3

### Effect of the SF Energy Facility On Emissions of PM10 Precursors In the San Francisco Air Basin

#### Net Change in PM10 Precursors, (tons/year)

Year	SFEC CUM. IMPACTS	FSA	SERASYM OLD SFOC	SERASYM NEW SFOC	MRW Base Case	MRW Sensitivity Case 1	MRW Sensitivity Case 2
1997	(419)	(295)	(768)	(449)	11	(388)	(388)
1998	(493)	(222)	(1,437)	(695)	(72)	(525)	(525)
1999	(265)	(203)	(554)	(442)	(142)	(508)	(508)
2000	(277)	(277)	(913)	(560)	(168)	(618)	(618)
2001	(254)	(112)	(394)	(347)	(148)	(578)	(530)
2002	(68)	(185)	(841)	(517)	(160)	(511)	(423)
2003	(193)	(125)	(515)	(359)	(155)	(586)	(500)
2004	(126)	(149)	(883)	(503)	(154)	(560)	(499)
2005	(40)	2	(1,039)	(599)	(150)	(514)	(451)
2006	(88)	(36)	(907)	(573)	(121)	(567)	(473)
2007	(107)	(82)	(598)	(468)	(70)	(477)	(453)
2008	(102)	(7)	(914)	(592)	(161)	(541)	(458)
2009	(78)	(17)	(1,060)	(720)	(119)	(598)	(447)
2010	(87)	(24)	(943)	(683)	(56)	(555)	(460)
Average	**************************************					1	
(1997-2010)	(185)	(124)	(840)	(536)	(119)	(538)	(481)
(2004-2010)	(90)	(45)	(906)	(591)	(119)	(545)	(463)

Note: '()' denotes an emission reduction

The utility emissions that contribute to PM10 are directly emitted PM10; oxides of nitrogen (NOx) which reacts in the atmosphere to form particulate nitrate aerosols; and sulfur oxides (SOx), which react in the atmosphere to form particulate sulfate aerosols. POC emissions from natural gas combustion are typically of such a low molecular weight that they do not form organic aerosols in the atmosphere.

Source: Rubenstein

## (2) The project will reduce PM<sub>10</sub> overall because its generation will displace that of less efficient, higher emitting facilities in the Bay Area.

The SFEC witness testified that a foreseeable related impact of the project is the reduction of PM<sub>10</sub> emissions in the Bay Area. (Rubenstein, 7/12/95, pp. 5, 15.) This reduction would occur because, if the project is built, it will reduce emissions of PM<sub>10</sub> precursors (direct PM<sub>10</sub> plus NOx, SOx, and POCs) from other Bay Area power plants that are less efficient (and have higher emissions) by "displacing" the need for their generation. (*Ibid.*) SFEC calculated the level of PM<sub>10</sub> precursor displacement using a computer model of the operation of PG&E's generation, with and without the project, and with varied assumptions about how the SFOC is applied. (Rubenstein, 7/12/95, pp. 6-7 [Table 2], 15-16.) The modeled results (see Air Quality Table 3, column "SFEC Cum. Impacts") indicate reduced PM<sub>10</sub> precursors in the Bay Area as a result of the project for every year from 1997 to 2010, the last year modeled, (*Ibid.*) Since PM<sub>10</sub> is a regional problem, the project benefits air quality. (*Ibid.*)

The SFEC testimony shows dramatic reductions in the emissions of PM<sub>10</sub> precursors as the result of the project, from 493 tons/year reductions in 1998 to 254 tons/year reductions in 2001. (Rubenstein, 7/12/95, p.7, Table 2, column "SFEC Cum. Impacts" [as corrected by errata introduced at 7/20/95 hearing, p.6].) The average tons/year net reduction in the air basin from the project's displacement of other generation was calculated to be 185 tons/year averaged from 1997 to 2010. (*Ibid.*) The displacement benefits appear to gradually decline in later years of the analysis, to 87 tons/year by 2010. (*Ibid.*)

#### (3) Localized impacts of project emissions are not significant adverse impacts.

As discussed above, SFEC's testimony emphasized that any direct PM<sub>10</sub> impact from the project was by nature a regional *de minimis* cumulative impact. However, it also provided extensive rebuttal testimony to Staff's testimony that the project's PM<sub>10</sub> emissions result in a

significant direct localized impact. This rebuttal was directed at Staff's worst-case computer modelling assumptions, and may generally be said to contend that (1) the modelling assumptions and results are not reflective of actual meteorological conditions, and (2) that even using such assumptions, no significant adverse local impact occurs. The testimony is summarized below.

Weather data shows that winds in the area are predominantly from the west and southwest, with few periods of calm. (9/1/95 Rubenstein, p.3.) The worst case 24-hour impacts from the project were modeled to be  $4.956 \ \mu g/m^3$ . (*Ibid.*) Subsequent to this modeling, turbine emission rates were reduced such that this worst-case figure is reduced to  $4.0 \ \mu g/m^3$ . (*Id.*, at p.4.) Moreover, this worst-case impact is the result of fumigation modeling that is based on a combination of theoretical weather conditions ("shoreline fumigation") that *did not occur* in the two years of weather data on which the windrose data was based, or in the 1992 Hunters Point data set. (*Id.*, at p. 4.)

Apart from these weather conditions, 24-hour average PM<sub>10</sub> emissions are expected to exceed 0.1  $\mu$ g/m<sup>3</sup> less than 2 percent of the time, and to never exceed 0.5  $\mu$ g/m<sup>3</sup>. (*Id.*, at p. 7.) The federal EPA level of significance when applying PSD requirements is an increase of 5.0  $\mu$ g/m<sup>3</sup>. (*Id.*, at p. 26.) Dispersion models are screening tools which by design are intended to overstate the impacts of air pollution sources. (7/12/95 Rubenstein, p. 14.)

Cooling tower PM<sub>10</sub> impacts occur under different weather conditions than generator impacts and are thus not additive. (9/1/95 Rubenstein, p. 6.) The maximum 24-hour average PM<sub>10</sub> concentrations for the cooling tower will exceed 0.1  $\mu$ g/m<sup>3</sup> less than 2 percent of the time, and are less than 0.5  $\mu$ g/m<sup>3</sup> 100 percent of the time. (*Id.*, at p.7.) The 24-hour average PM<sub>10</sub> impacts from the facility as a whole will be less than 1.0  $\mu$ g/m<sup>3</sup> 98 percent of the time. (*Ibid.*)

The witness emphasized that the impacts discussed above are based on theoretical weather data that combines "screening" or theoretical worst case weather conditions to model a result. (9/12/95 RT 81-82.) Moreover, the modeled impacts were based on the "maximum potential"

emissions" of the project (the turbine emission level allowed by the FDOC), and turbine emissions will probably not exceed one-half of that level. (*Id.*, at pp. 82-83.) As a consequence, the modeled numbers will in reality be much lower. (*Ibid.*)<sup>99</sup>

In addition, the worst-case modeled PM<sub>10</sub> impacts just summarized are based on meteorological events that are not consistent with the weather conditions that result in area PM<sub>10</sub> 24-hour average exceedences. (9/1/95 Rubenstein, pp. 7-8.) The worst-case cooling tower impacts occur under modeled conditions of strong persistent winds from the north, a condition that occurred only on one day of the two years of weather data studied, and which is not at all consistent with the stagnant conditions that result in high ambient levels of PM<sub>10</sub>. (*Ibid.*) The worst-case modeled conditions for the gas turbine (shoreline fumigation with onshore winds) is a weather condition not found in the two years of data reviewed. (*Ibid.*)

The SFEC witness cited EPA documents to the effect that EPA set the 5.0  $\mu$ g/m³ level to establish the level below which it would not require any impact analysis on the ground that such impact levels are simply insignificant, even "in its most stringent regulatory context" (i.e., the 24-hour average). (9/1/95 Rubenstein, p. 26.) It is appropriate to use that EPA significance level for evaluating the impacts of the project. (7/20/95 RT 17.)

## (4) The benefits of playground PM<sub>10</sub> suppression exceed any PM<sub>10</sub> emissions impacts.

Although SFEC's witness characterized the  $PM_{10}$  impact as less than significant, he analyzed various mitigation measures that could be employed to reduce  $PM_{10}$  levels both locally and regionally. (9/1/95 Rubenstein, pp. 9-35.) These measures included availability of local

<sup>\*\*</sup> A GE Power Systems Engineer testified that the turbine will actually emit three to four lbs./hr. of PM<sub>10</sub>, which is less than *one-third* of the level assumed in the FDOC for the purpose of establishing maximum emissions. (9/12/95 RT 196-197.)

and regional offsets, "dry" cooling for the cooling tower, a variety of mobile (vehicle) offsets, and "geologic" PM<sub>10</sub> suppression of playground dust at two local playgrounds. (*Ibid.*) Dry cooling is expensive (\$1.54 million/ton), would result in a PM<sub>10</sub> reduction of only 3 to 4 tons/year, and would increase combustion PM<sub>10</sub> precursor emissions (NOx) by 1.2 tons/year. (*Id.*, at pp. 9-12.) The variety of considered mobile offsets were expensive (vehicles/\$186 million; bus conversion \$6.5 to 13 million) and had at best only short-term expected benefits. (*Id.*, at pp. 9-20.) Local crushed aggregate facilities offer minimal potential for PM<sub>10</sub> reductions. (*Id.*, pp. 20-21.) No banked PM<sub>10</sub> offsets were available in the Hunters Point area. (*Id.*, pp. 31-35.)

The only feasible and effective local mitigation SFEC identified was the resodding of two bare dirt school playgrounds in the local area. While insisting that there was no impact that required such mitigation, SFEC testified that it was willing to include that activity as "PM<sub>10</sub> mitigation beyond that required by CEQA." (7/12/95 Rubenstein, p. 24.) The resodding would provide 55.6 tons/year PM<sub>10</sub> reduction by installing and maintaining a new grass cover. (*Id.*, at p. 23-24.) This responds to the expressed PM<sub>10</sub> concern by reducing direct PM<sub>10</sub> emissions from sources within the immediate community. (*Id.*, at p. 26.)

In response to assertions that he had used unwarranted assumptions, the SFEC witness elaborated on the justifications for his assumptions of wind speed, wind obstacles, soil composition, and rain frequency. (9/12/95 RT 199-200.) Even a "conservatively low estimate" (10 percent) of the benefits of the resodding mitigation shows a benefit far greater than the impacts of the project locally. (9/12/95 RT 79; 7/20/95 RT 16.) In response to the Intervenors' assertions that dust PM<sub>10</sub> suppression cannot be equated with combustion PM<sub>10</sub> contributions, the SFEC witness testified that there is an insufficient basis for distinguishing between the health effects of different kinds of PM<sub>10</sub>, with the possible exception of that from sulfates. (7/21/95 RT 255-256.) The emissions from the cooling tower PM<sub>10</sub> are comprised of matter 75 percent of which is less than 2.5 microns—the same as you would expect to find in playground dust. (Id., p. 255.)

The written articles cited by Intervenors (by Thurston, Dockery, and Pope) concerning PM<sub>10</sub> health effect are of limited relevance to the case at hand, as they are based on the eastern United States and Europe, where major PM<sub>10</sub> contributors are oil combustion, metal manufacturing, and coal burning—contributors that are either largely or entirely absent in California. (*Id.*, at pp. 237-239.) Natural gas is a "clean" fuel, and contains no notable quantities of trace metals, ash, and sulfur; its combustion is more complete and results in substantially lower PM<sub>10</sub> emissions than other fuels. (Rubenstein 9/1/95, pp. 24-25.) Health effects have not been clearly linked to any particle "size regime" less than 10 microns in size. (*Id.*, at p. 25.) Diesel fuel contains both mutagens and carcinogens, and natural gas is a relatively clean fuel substituted for it to reduce diesel particulates. (*Id.*, at p. 24.)

Neither the original work relied upon to establish PM<sub>10</sub> standards nor the subsequent work entered into evidence by Intervenors indicate morbidity/mortality rate changes associated with particle sizes of less than 2.5 microns. (*Id.*, at p. 23.) SFEC requested official notice of EPA's recent "Draft PM<sub>10</sub> Criteria Document" (April 1995), which states at page 1-63:

Based on the above information, there is currently no obvious way by which to clearly distinguish morbidity effects of PM<sub>10</sub> versus PM 2.5. Even the suggestive evidence leaves the scales in a balanced position.

#### d. Intervenor Evidence

Dr. Gilliss, a physician, did a review of the literature by some of the experts on PM<sub>10</sub>. (7/21/95 RT 11-12.) She reported that among such experts there is a "considerable uncertainty as to the equivalence of the different sources of PM<sub>10</sub>," including the equivalence of geologic dust mitigation for combustion PM<sub>10</sub> emissions. (Id., at p. 13.) PM<sub>10</sub> has been shown to contribute to morbidity and mortality from asthma, chronic bronchitis, and possibly atherosclerotic cardiovascular disease. (Id., at p. 16.) In her opinion, there was not sufficient evidence that playground resodding PM<sub>10</sub> reduction would result in mitigation equivalent to the impact of PM<sub>10</sub> emitted from the project. (Ibid.) Mortality increases approximately one

percent for each 10  $\mu$ g/m<sup>3</sup> increase. (Id., at p. 20.) There is no evidence of a safety threshold for PM<sub>10</sub>—the health impacts appear to be linear. (Id., at p. 21.)

The articles cited that distinguished between different types of combustion sources did not include natural gas combustion in their comparisons. (*Id.*, at p. 28.) The reviewed studies did not concern any differences between *kinds* of combustion source PM<sub>10</sub>, such as the difference between natural gas and diesel fuel or gasoline. (*Id.*, at pp. 48-49, 54-55.)

Dr. Fairley, a statistician with BAAQMD testifying as a private citizen, testified that there is evidence that PM<sub>10</sub> is hazardous at much lower levels than previously thought. (9/12/95 RT 142.) Consequently, the project PM<sub>10</sub> would result in a noticeable increase in the death rate-between two and six deaths per year in the Bay Area. (*Id.*, at p. 144.) There is reason to doubt that resodding the playgrounds would compensate "for the 50 tons per year produced by this project." (*Id.*, at p. 145.) The resodding calculations for PM<sub>10</sub> reduction are based on questionable assumptions concerning wind speed, wind obstacles, and rainy weather. (*Id.*, at p. 147-148.)

Diesel bus emissions are a more serious health problem than project emissions because they emit carcinogenic  $PM_{10}$ , "tend to have heavier hydrocarbons," and the emissions are at ground level where they are easily inhaled. (*Id.*, at pp. 150, 176, 180-181.) The state's 24-hour average  $PM_{10}$  standard (50  $\mu g/m^3$ ) is "close to impossible to reach," because "even in the pristine area you can get up to 50 [ $\mu g/m^3$ ] on occasion." (*Id.*, at p. 155.) Exceedences of the 24-hour standard are caused by wood smoke, ammonium nitrate, and particular meteorological conditions. (*Id.*, at pp. 157-158.) To reduce  $PM_{10}$  levels in the Bay Area, it would have to be illegal to burn wood on expected high  $PM_{10}$  days. (*Id.*, at p. 158.)

PM<sub>10</sub> impacts are going to be worse locally than in distant parts of the Bay Area, but PM<sub>10</sub> also disperses throughout the Bay Area, and to measure the comparative local impacts requires "a very complex analysis." (*Id.*, at p. 166.) Resodding benefits are not equivalent

because their amount has been overestimated; if the amount of dust PM<sub>10</sub> were equivalent "I would have a tough time choosing, because . . . you can, in this geological dust, potentially have toxic substances." (Id., at pp. 185-186.) "Coarse" PM<sub>10</sub> (more than one micron) takes about one day to settle after it is emitted; PM<sub>10</sub> of less than one micron will remain airborne for three to five days before settling. (Id., at p. 188.) Larger particle PM<sub>10</sub> would be more likely to settle closer to the power plant, the finer PM<sub>10</sub> would be more likely to settle at distances remote from the power plant. (Id., at pp. 190-192.)

#### 3. Commission Discussion.

The record is undisputed that the project complies with all applicable LORS. The issues that remain are whether the project will result in a "significant impact" on the environment as that term is used in CEQA. Intervenors contend that both ozone and PM<sub>10</sub> emissions constitute a significant impact. Staff agrees with regard to PM<sub>10</sub>, but believes that the resodding "augmentation" proffered by SFEC is sufficient to mitigate that impact so that it is less than significant. SFEC, while committing to include playground resodding as a project community benefit, contends there is no reasonable basis for finding that the project results in a significant impact.

#### a. The Nature of Project Impacts

The impacts in question, whether or not significant, are clearly what CEQA defines as "cumulative impacts" rather than a "direct" or "indirect impact." To be a "direct impact," the PM<sub>10</sub> and ozone exceedences would have to be "caused by the project and occur at the same time and place." (Cal. Code Regs., tit. 16 [hereafter, "CEQA Guidelines"], § 15353.) "Indirect impacts" are foreseeable but often unintended impacts such as a change in a land use pattern as the result of a project, or growth inducing effects. (Ibid.) No party has presented evidence that the project would directly, by itself, have emissions sufficient to result in regulatory exceedences or health impacts, nor is there evidence that the project has that "indirect" result.

By contrast, "cumulative impacts" are the result of two or more individual effects, considered together; they can be changes resulting from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." (CEQA Guidelines, § 15355.) Ozone and PM<sub>10</sub> are not normally the direct result of any singular project, but are air quality problems that result from myriad sources, including past present, and presumably future projects.

The SFEC power plant is equipped with the latest pollution control technology and is fueled by a relatively "clean" fuel. Its air emissions, sometimes described as *de minimis* in a relative sense, are incapable of posing a significant direct impact. However, these emissions conceivably could aggravate ozone and PM<sub>10</sub> conditions and result in a significant cumulative impact. Our basis for determining that they do not result in any significant air quality impact is discussed below.

#### b. The Project Does Not Have a Significant Impact Regarding Ozone

BAAQMD has required that the project emissions for ozone precursors be fully offset. (FSA, p. 119.) NOx, a precursor for ozone and PM<sub>10</sub>, will be offset at a ratio of 1.15 to 1.0, resulting in 14+ tons/year fewer ozone precursors than are currently allowed to be emitted. (FDOC, Table C-1, p. C-1.) POC precursors will be offset under BAAQMD Rule 2-2-302 at a ratio of 1.0 to 1.0. The overall result of the project is that there will be fewer NOx precursors after the project is built.

BAAQMD has through a variety of programmatic controls managed to significantly reduce ozone levels in the Bay Area in recent years. (FSA, p. 80.) This has resulted in recent EPA redesignation of the district as in "attainment" for the federal ozone standard. (7/20/95 RT 23.)

While it presented no testimony on ozone, Intervenors contend that ozone emissions do constitute a significant impact. (Intervenor's Brief, pp. 46-51.) By cross-examination it

produced testimony of apparent recent exceedences of the federal ozone standard in Livermore and San Leandro during 1994-1995. (7/19/95 RT 148-155.)

Intervenors' arguments ignore the evidence discussed above: that the effect of this project will be to reduce ozone precursor emissions, thereby resulting in less ozone in the Bay Area. For that reason, the record is persuasive that the project will pose no significant cumulative effect regarding ozone.

#### c. The Project Does Not Have a Significant Impact Regarding PM10.

#### (1) There is no clear standard for determining significance.

The project complies with all applicable federal and state laws and regulations. Based on this compliance, SFEC contends that, pursuant to CEQA Guideline Section 15064, subdivision (i), the Commission should find that there is no significant impact. (See SFEC Brief, pp. 147-148.)

BAAQMD has experienced no violations of the federal and state ambient air quality standards for annual average  $PM_{10}$ . There have also been no exceedences of the federal 24-hour standard (150  $\mu$ g/m³), but there have been continual periodic exceedences (though declining in number and magnitude) of the more stringent (50  $\mu$ g/m³) state standard. (FSA, Tables 1, 2, and 2A, pp. 74-77.) Staff apparently contends that the  $PM_{10}$  impact is significant in that it believes the project will result in a net increase in primary  $PM_{10}$  emissions in an area which experiences occasional exceedences of the 24-hour average standard for  $PM_{10}$  (See FSA, pp. 125, 130.) Intervenors appear to contend that the project will have a significant effect whether or not it results in a net reduction of emissions, because project emissions occur locally. (See Intervenors' Brief, pp. 30-34.)

BAAQMD and SFEC contend that the Commission should apply the level of significance developed by EPA and adopted by the BAAQMD for its PSD review--there is no "significant impact" if the effect of the proposed facility is less than 5  $\mu$ g/m<sup>3</sup> on a 24-hour average basis. (9/12/95 RT 193-195.) The SFEC witness testified that this level was set by EPA to establish a level below which it would not require any impact analysis on the ground that such impact levels are simply insignificant—even in the regulatory context of the 24-hour federal average standard. (9/1/95 Rubenstein, p. 26.)

Which, if any, of these standards make sense? Clearly, compliance with LORS does not mean a project has no significant impact, as is apparent from even a casual reading of CEQA Guideline Section 15064, subdivision (i). Likewise, the Staff position that any net increase of a pollutant for which a district has experienced any exceedence is per se significant is not sufficiently flexible. This is particularly true where the standard in question is violated on occasion in all but one county in the state (7/20/95 RT 30), and where the state's standard is "close to impossible to reach" because it will be violated even in pristine areas on occasion. (9/12/95 RT 155.)

The level of significance advocated by BAAQMD and SFEC is federally derived for air district PSD review, and clearly not legally binding on the Commission's CEQA determination. The evidence in this case indicates that EPA intended that it create a screening level for insignificance; if a project contributes less than 5  $\mu$ g/m³, no further analysis of the impact is required under federal air quality law.

The Commission declines to adopt the federal/BAAQMD level of significance as "the standard" for significance under CEQA. However, the Commission does consider the standard an authoritative benchmark which provides some perspective when analyzing the impact of the proposed power plant. Moreover, the evidence in the record as a whole is compelling that the project's PM10 impacts are less than significant by any reasonable evaluation, and that the project will result in both local and regional net PM<sub>10</sub> reductions.

#### (2) PM<sub>10</sub> is a regional problem.

The evidence is uncontested that the PM<sub>10</sub> exceedences in the Bay Area result from residential wood burning, motor vehicle (especially diesel) exhausts, nitrate, and geological dust. The PM<sub>10</sub> contribution of stationary sources such as the project are, in the aggregate, so small as to have no measurable effect on PM<sub>10</sub> levels or contribute to PM<sub>10</sub> state standard exceedences. (Rubenstein 7/12/95, pp. 9-10, 13; BAAQMD Comments on PMPD, 12/6/95, p. 1.)

Secondary PM<sub>10</sub> is formed many miles downwind from its point of emission as a result of the interaction of various gases in the atmosphere. (FSA, p. 80.) NOx, SOx, and POCs are precursors. (*Ibid.*) The persuasive evidence is that PM<sub>10</sub> levels are relatively consistent throughout the Bay Area. (Rubenstein 7/12/95, p. 17.) PM<sub>10</sub> levels are the result of regional emissions and photochemical reactions; no PM<sub>10</sub> "hot spots" have been identified in the Bay Area as the result of industrial activity. (*Id.*, at p. 25.) There is no evidence that PM<sub>10</sub> levels in Hunters Point are unusually high. (*Ibid.*)

Regional problems such as ozone and PM<sub>10</sub> should be addressed programmatically, and both CARB and BAAQMD have done so with a variety of measures. NSR requirements "ratchet down" precursor emissions incrementally by requiring ratioed offsets. In addition, existing emission sources are continually ratcheted as well. (7/19/95 RT 166.) CARB's clean fuel requirements begin this year, and should result in measurable PM<sub>10</sub> reductions from vehicle sources. (BAAQMD Comments on PMPD, 12/5/95, p. 1.) BAAQMD has educational/informational programs to reduce residential wood burning, and is considering additional abatement strategies for this major pollutant. (*Id.*, at p. 4; Rubenstein 7/12/95, p. 3;

Even where a cumulative impact is determined to be significant, the CEQA Guidelines strongly suggest that programmatic and regulatory approaches may be more appropriate than attempts to mitigate project-by-project. (See CEQA Guideline Section 15030(c), including discussion ["cumulative effects can rarely be mitigated in the same way as the primary effects of an individual project"].) The CARB/BAAQMD regulatory program approach is consistent with this approach.

Response to Staff Data Request AQ-34, 2/22/95.) The recorded data indicate a downward trend in both the frequency and magnitude of Bay Area PM<sub>10</sub> violations. (FSA, p. 81.)

- (3) The project will forseeably result in a net reduction of PM<sub>10</sub> emissions in the Bay Area region.
  - (a) Actual emissions should be no more than one-third of the PM<sub>10</sub> emissions assumed for all analyses.

BAAQMD's FDOC describes the project "maximum facility emissions to be 45.4 tons/year of PM<sub>10</sub> of emissions from all sources, both permitted and exempt. (FDOC, pp. B-2 [Table 3] and B-18 [Table B-14].) Using presumably parallel assumptions, Staff did its analysis assuming that the project would emit maximum permitted emissions of 45.6 tons/year. (Staff Comments on Proposed Dec., 11/15/95, p. 6.)

These numbers, or ones of similar magnitude, became the basis of all the analysis of PM<sub>10</sub> impacts. However, Staff believes that actual emissions will be *much* lower-approximately one-third of the emissions permitted. (*Ibid.*) Staff indicates that the higher level was a worst-case assumption (*Ibid.*), and testimony from GE Power Systems stated that the actual emissions of the turbine should be no more than three to four lbs./hour. (9/12/95 RT 196-197.) This is even *less* than one-third of the PM<sub>10</sub> emissions assumed by BAAQMD and Staff (12.1 lbs./hr. in the FDOC, Table B-3, p. B-2) in their respective analyses.

Thus, based on the uncontested testimony cited above, the <u>expected PM</u><sub>10</sub> emissions of the project should be approximately 15 tons/year.

(b) The project will provide substantial "ratioed" offsets for pollutants that are PM<sub>10</sub> precursors.

As required by BAAQMD, the project will provide offsets for 111.73 tons/year of NOx, and the District is required to provide 42.6 tons/year of POC banked offsets. (FDOC, Table

C-1, p. C-1.) The NOx offsets are provided at a ratio of 1.15 to 1.0.) (*Ibid.*) This means that the offsets for PM<sub>10</sub> precursors will exceed 14 tons/year <u>more</u> than the worst-case assumptions for PM<sub>10</sub> precursor emissions—an amount roughly equal to the approximate 15 tons/year of PM<sub>10</sub> that the project is expected to emit. (*Ibid.*) The project in actual operation will emit considerably less NOx and POC than is assumed by the worst-case. (See AFC, pp. 5.1-92, 5.1-97 [describing how worst-case assumptions were used to calculate all project emissions under all operation scenarios].) As a result, it is reasonable to conclude that <u>actual</u> project emissions of PM<sub>10</sub> precursors will be considerably less than those required as the basis for offsets; that is, offsets for PM<sub>10</sub> precursors will exceed actual emissions of PM<sub>10</sub> and PM<sub>10</sub> precursors.

The above conclusion, though a reasonable inference, is admittedly somewhat "soft" in that the required offsets for NOx will actually be met with POCs, a pollutant offset "trade" that is allowed because both are ozone precursors. Although POCs are generally considered to also be PM<sub>10</sub> precursors, this is not true for all POCs (FSA, p. 119), and the Commission is unaware of any evidence in the record indicating what portion of the POC offsets are in fact PM<sub>10</sub> precursors. However, any doubt on this issue is more than overcome by the "displacement" effect of the project on PM<sub>10</sub> precursors in the BAAQMD region, as discussed below.

(c) The project will displace other PG&E generation in the Bay Area, resulting in substantial additional PM<sub>10</sub> reductions.

Both SFEC and Staff used production cost models to predict what effects the project would have on the operation of the PG&E system. The project is more efficient and less polluting than most plants in PG&E's system. Accordingly, PG&E can be expected to utilize the project before it utilizes less efficient plants. The result is that some less efficient sources of generation will operate less, and are hence "displaced" by the project. Staff and SFEC modeling was an attempt to see how that displacement would forseeably effect emissions of PM<sub>10</sub> and its precursors.

Staff and SPEC used different modeling assumptions. Staff used ER 94 assumptions (not then adopted by the Commission) and assumed that if SPEC were not built, there would be no additional generation than PG&E currently plans for its San Francisco peninsula facilities, including Hunters Point Units 2 and 3. (FSA, Appendix F; 7/20/95 RT 165.) If SFEC is not built and these facilities continue to operate, even at reduced capacity consistent with BAAQMD requirements, this assumption in the Staff analysis understates the displacement of PM<sub>10</sub> precursor emissions that will result from the project. (FSA, Appendix F; 7//20/95 RT 159-165.)

Staff's analysis indicates that the project would result in additional direct PM<sub>10</sub> emissions in every year analyzed (1997-2017), but substantial reductions in PM<sub>10</sub> precursor emissions through 2004. (FSA, Appendix F, Table 3.) From 1997 through 2004, Staff's analysis shows a *net* reduction of more than 150 tons/year for PM<sub>10</sub> and its precursors as a result of the project. (Rubenstein, 7/12/95, Attachment 1 [table displaying Staff results].) Project displacement continues after 2004, but at a substantially reduced rate. (*Ibid.*)

SFEC's analysis used ER 92 modeling assumptions that had been adopted by the Commission. Staff correctly contends that some of these assumptions indicate unrealistically generous displacement as a result of the project, in particular the assumption that Hunters Point Unit 2 and 3 continue to operate at current levels if the project is not built. (FSA, Appendix F.) SFEC's analysis indicated that displacement of PM<sub>10</sub> precursors would result in average Bay Area reductions of 200 to 600 tons/year--considerably higher than the Staff's more pessimistic estimates. (Rubenstein, 7/12/95, Attachment 1.)

The Staff modeling understates the project's displacement of BAAQMD PM<sub>10</sub> emissions; the SFEC modeling overstates it. It does not matter. Both parties' results indicate that there will be a considerable net reduction in PM<sub>10</sub> precursors in the air district as the result of the operation of the project.

# (4) The project will not result in any significant local effect.

As discussed above, PM<sub>10</sub> is a regional impact that is most commonly cumulative in nature. Nevertheless, the project was evaluated for its direct local impact as well. Computer models were used which contained worst-case assumptions for meteorology and emissions. These computer models are screening tools which are designed to overstate actual impacts. (7/12/95 Rubenstein, p. 14.) As Staff stated:

Taken together, use of conservative emissions levels and the conservative nature of the models create a result that represents the very worst potential impacts of the project. They do not represent the likely day to day impacts of the project. (Final Staff Comments on Proposed Dec., 11/27/95, p.4 [emphasis in original].)

Even with these worst case assumptions, the modeling did not demonstrate any potential impact from the project which may reasonably be considered significant.

The worst-case 24-hour impacts were modeled at 4.956  $\mu$ g/m³. (9/1/95 Rubenstein, p. 3.) Subsequent to this modeling, turbine emission rates were reduced such that this worst-case figure is reduced to 4.0  $\mu$ g/m³. (Id., at p. 4.) This worst-case impact is the result of furnigation modeling of weather that is so unique as to be theoretical: such conditions did not occur in the two years of weather data examined by SFEC. (Id., at p. 4.)

Apart from these theoretical weather conditions, 24-hour PM<sub>10</sub> impacts are expected to exceed 0.1  $\mu$ g/m<sup>3</sup> less than two percent of the time, and to *never* exceed 0.5  $\mu$ g/m<sup>3</sup>. (*Id.*, at p. 7.)

Cooling tower impacts are experienced under different weather conditions than generator impacts and are not additive. The maximum 24-hour PM<sub>10</sub> impact for the cooling tower will exceed 0.1  $\mu$ g/m<sup>3</sup> less than two percent of the time, and less than 0.5  $\mu$ g/m<sup>3</sup> 100 percent of the time. (*Ibid.*)

As stated previously, the federal EPA level of significance when applying PSD requirements is  $5.0 \,\mu\text{g/m}^3$ . The 24-hour average PM<sub>10</sub> impact from the facility as a whole will be less than  $1.0 \,\mu\text{g/m}^3$  for 98 percent of the time. (*Ibid.*) Moreover, all the impact numbers set forth in the discussion above are based on the worst-case emissions of the project, and should thus in reality be approximately one-half (or one-third) of the stated levels. (9/12/95 RT 82-83.) Consequently, the actual impacts are far lower than even the numbers suggest. (*Ibid.*)

In addition, the worst-case impacts summarized above occurred under theoretical weather conditions that are inconsistent with the weather conditions that can result in area 24-hour PM<sub>10</sub> exceedences. (9/1/95 Rubenstein, pp. 7-8.) As a result, one could not expect these worst-case conditions to coincide with PM<sub>10</sub> ambient levels high enough to result in an exceedence.

The worst-case PM<sub>10</sub> effect of the project on the immediate vicinity does not constitute more than a small fraction of EPA's PSD project significance level of  $5.0 \mu g/m^3$ . If more reasonable "non-worst-case" assumptions are made for both weather and emissions, the project impact would be considerably smaller. Actual weather conditions, with prevailing winds from the west and southwest (9/1/95 Rubenstein, p. 3; AFC, p. 5.1-4), will tend to disperse emissions over the San Francisco Bay, not Hunters Point.

# (5) The dust suppression "augmentation" proposed by SFEC will result in a net reduction of local PM<sub>10</sub>.

Concerned that Staff had considered the project's PM<sub>10</sub> impact significant, SFEC made an extensive evaluation of possible mitigation measures (9/1/95 Rubenstein, pp. 9-35.) While it insists that the project does not result in a significant impact, SFEC has proposed the resodding of two playgrounds near the project to reduce geologic dust PM<sub>10</sub> in the project area. (7/12/95 Rubenstein, p. 24.) This community benefit has been incorporated as a project condition. (See Condition of Certification, SOCIO-5.) SFEC and Staff have agreed that the resodding should provide more than 50 tons/year of PM<sub>10</sub> reductions by installing and maintaining a new grass cover. (Id., at pp 23-24; Final Staff Comments on Proposed Dec.,

11/27/95, p.5.) This responds to the  $PM_{t0}$  concern by reducing direct  $PM_{t0}$  emissions from a source within the immediate community.

Although Intervenors' witnesses questioned the assumptions used to calculate the 55.6 tons/year reduction (9/12/95 RT 145), SFEC used a calculation checked by Staff and termed appropriate by the EPA. (7/20/95 RT 143.) Reduction of PM<sub>10</sub> through resolding should more than compensate for local project emissions because the dust is near the ground, while stack emissions are buoyant and greatly dispersed before they settle. (Staff Comments on Proposed Dec., 11/27/95, p. 6.) Even if one conservatively assumes only ten percent of the calculated dust suppression, it more than subsumes the impacts of the project locally. (9/12/95 RT 79; 7/20/05 RT 16.)

Intervenors arguments and testimony that dust suppression may be inappropriate for mitigation of combustion PM<sub>10</sub> were based on a review of articles by several PM<sub>10</sub> experts. The articles in question did not address the differences between kinds of combustion PM<sub>10</sub>, particularly that resulting from natural gas combustion. (Id., at pp. 28, 48-49, 54-55.) Natural gas combustion is "cleaner" regarding PM<sub>10</sub> than fuel oil or coal; it contains no notable quantities of trace metals, ash, and sulfur. (9/1/95 Rubenstein, pp. 24-25.) There is no evidence of increased mortality as a result of a greater portion of PM<sub>10</sub> sized less than 2.5 microns. (Id., at p. 23.)

### <u>Summary</u>

The Commission is persuaded that the project will not result in a significant impact to air quality because PM<sub>10</sub> is primarily a regional problem, and the project will actually reduce that problem because of its ratioed offsets of PM<sub>10</sub> precursors and its displacment of other PM<sub>10</sub> emissions from older Bay Area plants in PG&E's system.

If the impact of the project is measured at the local level using worst-case assumptions both for emissions and meteorology, project emissions are well below the EPA standard for PSD project significance. Moreover, the worst-case modeling assumptions assumed weather that rarely if ever occurs, and would result in weather unlike those of a PM<sub>10</sub> exceedence episode should they actually occur.

Although the Committee is persuaded that there is no significant impact regionally or locally, SFEC has agreed to a "community benefit" measure that would resod two playgrounds proximate to the project. The PM<sub>10</sub> reduction from this resodding can reasonably be expected to far exceed local PM<sub>10</sub> from the project. For these reasons the Committee is persuaded that the project will result in reduced PM<sub>10</sub> both regionally and locally, and that the project impact is not significant.

### FINDINGS AND CONCLUSIONS

Based upon the evidence of record, and assuming the implementation of the Conditions of Certification and the conditions of the Bay Area Air Quality Management District (BAAQMD) Determination of Compliance, the Commission finds as follows:

- The BAAQMD has issued a Final Determination of Compliance concluding that the project complies with all laws, ordinances, regulations, and standards pertaining to air quality.
- 2. Conditions substantively identical to those in the Final Determination of Compliance are included in the permit conditions of this decision.
- 3. BAAQMD has certified pursuant to Public Resources Code Section 25523(d)(2) that, to the extent emission offsets are required for the project, complete emissions offsets have been identified and will be obtained by San Francisco Energy Company prior to Commission licensing.
- 4. The offsets provided for ozone will more than compensate for the project's ozone emissions.
- 5. The general trend in the Bay Area is to lower ozone levels, and BAAQMD has been redesignated as "in attainment" with the federal ozone standard.
- 6. The project will use Best Available Control Technology and will burn natural gas, a fuel which minimizes PM<sub>10</sub> and SO2 emissions.

- 7. The project's maximum *permitted* emissions are approximately 45 tons/year of PM<sub>10</sub>; its *expected* emissions are one-third of the permitted level.
- 8. Because the project emits less than 100 tons/year of PM<sub>10</sub>, BAAQMD does not require PM<sub>10</sub> offsets, nor does it require Prevention of Significant Deterioration (PSD) review.
- 9. Under federal PSD review, the standard for determining whether a project's impacts are significant is whether the project's emissions will result in an ambient air increase of 5  $\mu$ g/m<sup>3</sup> for the 24-hour average.
- 10. BAAQMD is "in attainment" for the federal ambient air quality PM<sub>10</sub> standards for both annual and 24-hour averages. BAAQMD is also in attainment for the state annual average standards, but is "non-attainment" for the state 24-hour average standard of 50 μg/m<sup>3</sup>.
- 11. In the Bay Area (as illustrated in Figure 1), exceedences of the state 24-hour average PM<sub>10</sub> standard are almost exclusively the result of residential wood smoke, motor vehicle exhausts, nitrates and sulfates, dust, and sea spray; stationary combustion sources are not important contributors.
- 12. Exceedences of the 24-hour average PM<sub>10</sub> standard occur only occasionally, usually during winter during stagnant weather conditions that are uncommon.
- 13. The trend of PM<sub>10</sub> 24-hour exceedences in BAAQMD is to fewer exceedences of the standard, and of exceedences of lower magnitudes.
- 14. BAAQMD is programmatically addressing PM<sub>10</sub> emissions through its New Source Review and PSD requirements, through programs to decrease the amount of residential wood burning during weather conducive to exceedences, and other measures.
- 15. The California Air Resources Board is programmatically reducing PM<sub>10</sub> through clean fuel requirements.
- 16. The PM<sub>10</sub> problem is essentially regional, in that much of it is formed by precursors downwind from the emission source; PM<sub>10</sub> levels are relatively consistent throughout the Bay Area, with no PM<sub>10</sub> "hot spots" resulting from industrial activity.
- 17. The project, by virtue of both the offsets it provides of PM<sub>10</sub> precursors and the displacement of other power generation it will forseeably cause, will result in a considerable reduction of PM<sub>10</sub> in the Bay Area.
- 18. Using worst-case assumptions for both emissions and meteorology, the project's emissions will have no significant impact locally.

- 19. The worst-case meteological modeling assumptions which produce maximum PM<sub>10</sub> levels locally are inconsistent with the weather that typically results in local exceedences of the state 24-hour average standard.
- 20. SFEC has proposed, and will provide as a condition of this decision, the resodding of two local playgrounds to reduce PM<sub>10</sub> dust in the vicinity of the project by approximately 55 tons/year--a reduction of PM<sub>10</sub> exceeding any local contribution by the project.
- 21. With the Conditions of Certification that follow, construction impacts will be of short duration and insignificant with the measures required by this Decision.
- 22. With the Conditions of Certification that follow, project start-up conditions will not result in any significant impacts on air quality.
- 23. The Conditions of Certification which follow ensure that the proposed project will be constructed and operated in conformity with the laws, ordinances, regulations, and standards set forth in APPENDIX: LORS of this Decision.

### CONDITIONS OF CERTIFICATION

- AQ-1 As part of the requirements for Condition of Certification SOIL&WATER-1 for the preparation of a grading and erosion control plan for the project site, the project owner shall include and identify in that plan the following:
  - the location of all paved roads, parking, and laydown areas,
  - the location of all roads, parking areas, and laydown areas that are surfaced with gravel,
  - the location of all roads, parking areas, and laydown areas that are treated with magnesium chloride dust suppressant or equivalent, and,
  - the location of all dirt storage piles.

<u>Verification</u>: No less than 30 calendar days prior to the start of grading on the project site, the project owner shall submit for review and approval to the Commission Compliance Project Manager (CPM) in writing, and with construction drawings, a City/County of San Francisco-approved erosion and sediment control plan. This plan shall include the delincation of the control measures discussed above for all roads, parking areas and laydown areas, and the location of all dirt storage piles.

- AQ-2 The project owner shall perform the following mitigation measures during the construction phase of the project:
  - a. The area of disturbance within the construction site shall be watered so that it is visibly wet, twice or more daily, as necessary. This Condition shall not apply on rainy days where precipitation exceeds 0.1 inch.
  - b. Any graded areas where construction ceases shall be treated with a magnesium chloride (or equivalent) dust suppressant within seven days, or sooner if windy conditions create visible dust beyond the project site boundary.
  - c. Magnesium chloride (or equivalent) dust suppressant or fabric covers shall be applied to any dirt storage pile within three days after the pile is formed, or sooner if windy conditions create visible dust beyond the project site boundary.
  - d. Prior to entering public roadways, all truck tires shall be visually inspected, and, if found to be dirty, cleaned of dirt using water spraying or methods of equivalent effectiveness, subject to CPM approval, prior to entering public roadways.
  - e. At least 500 yards from the construction site entrances, public roadways shall be cleaned on a weekly basis, or when there are visible dirt tracks on the public roadways, by either mechanical sweeping or water flushing.
  - f. A speed limit sign shall be posted at the entrance of the construction site to limit vehicle speed to no more than 15 miles per hour on unpaved areas.
  - g. All construction equipment shall be properly maintained to detect and to prevent mechanical problems that may cause excess emissions.
  - No construction equipment shall be kept idling when not in use for more than 30 minutes.

<u>Verification</u>: The project owner shall maintain a daily log of water truck activities, including the number of gallons of water used to reduce the dust at the construction site. A log or record of the frequency of public road cleaning shall also be maintained. These logs and records shall be available for inspection by the CPM during the construction period. The project owner shall identify in the monthly construction reports the area(s) that the project owner shall cover or treat with dust suppressants. The project owner shall make the construction site available to the Bay Area Air Qulality Management District (BAAQMD or District) staff and the CPM for inspection and monitoring.

AQ-3 Prior to the start of construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation and soil

remediation activities), the project owner shall provide the CPM with the following information: the name, telephone number, resume, and indication of availability of the on-site Environmental Coordinator.

<u>Protocol</u>: The resume shall include experience in monitoring hazardous waste site remediation or experience as an inspector with an air pollution control district.

The CPM will review the qualifications of, and must approve in writing, the project owner's designated Environmental Coordinator prior to the start of construction.

<u>Verification</u>: At least 90 days prior to the start of construction, the project owner shall submit to the CPM for review and written approval the information required above. The CPM shall approve or disapprove the proposed Environmental Coordinator within 15 days of receipt of the submittal.

AQ-4 The on-site Environmental Coordinator shall be on-site every working day during site preparation.

<u>Duties:</u> The on-site Environmental Coordinator shall inspect and ensure that all fugitive dust mitigation measures during the site preparation phase of construction are properly implemented including, but not limited to, the mitigation measures specified in Condition AQ-2. The primary responsibility of the Environmental Coordinator is to insure that no fugitive dust emissions are emitted beyond the property boundary line under the control of the project owner.

<u>Verification</u>: See verification for Condition AQ-5.

AQ-5 The on-site Environmental Coordinator will exercise the authority to halt any on-site activity, temporarily stop activities, or direct activities to proceed under a modification of the mitigation requirements of Condition AQ-2 if, in the opinion of the Environmental Coordinator, the project owner is not complying with the requirements of Condition AQ-2 or fugitive dust emissions are noticed beyond the project boundary.

<u>Verification</u>: The Environmental Coordinator will prepare on a daily report of the day's construction activities and appropriate fugitive dust mitigation measures employed by the project owner. A summary of the daily reports shall be included in the monthly compliance report to the CPM. If any complaints by the public are received, or if the project owner does not agree to comply with instructions given by the Environmental Coordinator, or if any other fugitive dust issue, in the judgment of the Environmental Coordinator, needs to be brought to the attention of the CPM, the Environmental Coordinator shall contact the CPM at his or her earliest convenience.

- AQ-6 For all utility trenching activities, the project owner shall implement the following control measures:
  - a. Soil shall be pre-wetted prior to excavation;
  - b. Travel surfaces shall be wetted with the use of a water truck; and
  - c. All exposed soil areas within the utility trenching area shall be wetted by the use of hose spraying.

<u>Verification</u>: The project owner shall make the utility trenching sites available to the District staff and the CPM for inspection and monitoring.

AQ-7 The total dissolved solids content of the circulating cooling water shall not exceed 6600 ppmw, averaged over any consecutive three hour calendar week period.

<u>Verification</u>: The project owner shall maintain records of a weekly blowdown water quality test for inspection by the CPM.

AQ-8 The cooling tower drift rate shall not exceed 0.0006%. The project owner shall provide a written vendor statement, prior to installation, declaring that the cooling tower drift eliminators used meet the drift rate stated above.

<u>Verification</u>: At least 30 days prior to the installation of drift eliminators on the cooling towers, the project owner shall submit to the CPM a written vendor statement declaring that the mist eliminators to be installed meet the drift rate stated above.

AQ-9 To maintain compliance over the life of the project with the 0.0006% drift rate limit, the project owner shall perform a visual inspection of the cooling tower drift eliminators once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to commencement of initial operation of the project, the project owner shall have the cooling tower vendor field representative conduct an inspection of the cooling tower drift eliminator installation and have that representative certify that the installation was performed in a satisfactory manner, source tests of the PM<sub>10</sub> emission rates from the cooling tower. The project owner shall submit to the CPM a written source test procedure for approval. Subsequent to receiving approval from the CPM of the source test procedure, the project owner shall conduct source testing of the cooling tower.

Verification: As part of the January Air Quality Report described in the Verification to Condition AQ-21, the project owner shall include the results of the visual inspection of the cooling tower drift eliminator components and identify the nature of any repairs performed. The initial Air Quality Report will include a copy of the cooling tower field representative a inspection report of the drift eliminator installation. The CPM may, in the years 2002 and 2012, require the project owner to perform a source test of the PM in emissions rate from the cooling tower to verify continued compliance with the drift rate. The project owner shall conduct the cooling tower source tests in the years 2002 and 2012. Sixty (60) days prior to the planned cooling tower PM., source test, the project owner shall submit to the CPM for approval a detailed source test procedure. The CPM will notify the project owner of the approval, disapproval, or proposed modifications to the test procedure within 30 days of receipt of the test The project owner shall incorporate the CPM's comments on or modifications to the test procedure. Subsequent to receiving approval from the CPM of the source test procedure, the project owner shall conduct source testing of the cooling tower.

Source test results shall be submitted to the CPM within 60 days following the date of the tests.

AQ-10 The two 150-horsepower diesel fuel standby pump engines (Engine-Driven Booster Fire Pump and Standby Fire Pump) shall not each operate greater than one hour per day to check for normal operation of these engines. In addition, these two units shall not operate more than 100 hours per year.

<u>Verification</u>: As part of the January Air Quality Report described in the Verification to Condition AQ-21, the project owner shall include a log of the hours of daily operation and total annual hours of operation of the standby pump engines.

AQ-11 The two 150-horsepower standby pump engines described in Condition AQ-10 shall use only low sulfur diesel fuels which contain 0.05 percent or less sulfur by weight.

<u>Verification</u>: As part of the January Air Quality Report described in the Verification to Condition AQ-21, the project owner shall include the records of fuel oil purchased and the sulfur content included.

AQ-12 The two 150-horsepower standby pump engines described in Condition AQ-610 shall not exceed the following emission limits:

Emission	Limits in pounds	per hour
CO	NO <sub>x</sub> as NO <sub>2</sub>	$PM_{10}$
2.0	9.3	0.7

The project owner shall submit to the CPM a written source test procedure for approval. Subsequent to receiving written approval from the CPM of the source test procedure, the project owner shall conduct source testing of the two standby pump engines. The project owner shall provide a written vender statement, prior to installation, declaring that the standby pump engines used meet the emission limits stated above.

<u>Verification</u>: Sixty (60) days before initial operation of the standby pump engines, the project owner shall submit to the CPM a detailed performance test procedure necessary to comply with this condition. The CPM will notify the project owner of the approval, disapproval, or proposed modifications to the test procedure within 30 days of receipt of the test procedure, otherwise the procedure shall be deemed approved. The project owner shall incorporate the CPM's comments on or modifications to the procedure.

Source test results shall be submitted to the CPM within 60 days of the date of the tests.

At least 30 days prior to the installation of standby pump engines, the project owner shall submit to the CPM a written vendor statement declaring that the standby pump engines to be installed meet the emission limits stated above.

### DISTRICT CONDITIONS OF CERTIFICATION

[There are no Conditions of Certification for AQ-13 through and including AQ-20.]

AQ-21 The S-1 Combustion Turbine Generator (CTG), S-2 Heat Recovery Steam Generator (HRSG), and S-3 Auxiliary Boiler shall be fired exclusively with natural gas. (BAAQMD-1.)

<u>Verification</u>: After the project starts commercial operation, the project owner shall submit to the CPM an Air Quality Report semiannually every January and July. The complete data report shall be submitted in electronic form, and shall contain all of the data required by these air quality Conditions of Certification.

<u>Protocol</u>: The Air Quality Report shall include two components: an exceptions report, and a complete data report. The exceptions report shall be written, and shall identify all instances where any of the Conditions of Certification have not been met. For purposes of verifying Condition AQ-21, the data report shall contain information on fuel consumption as required in Condition AQ-22.

AQ-22 The heat input rates of each source or combination of sources described in TABLE 1 below shall not exceed the limits given therein. The hourly limits shall apply to a rolling three hour average. The daily limits shall apply to a calendar day. The annual limits shall apply to any consecutive twelve month period. As specified in TABLE 1 below, the combined natural gas usage at S-1 CTG and S-2 HRSG shall not exceed 15,613,300 MM BTU during any consecutive twelve month period. (BAAQMD-2.)

AIR QUALITY TABLE 1
Maximum Heat Input Limits (HHV)

Source	MM BTU/hour	MM BTU/day	MM BTU/year
S-1 CTG	1,791	42,984	15,402,600
S-2 HRSG	100	2,400	430,000
S-1 CTG & S-2 HRSG Combined	1,840	44,160	15,613,300
S-3 Auxiliary Boiler	25	600	50,000

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall document the date and time when the hourly fuel consumption exceeds the hourly limits included in TABLE 1.

<u>Protocol</u>: The reports shall include a summary of hourly and daily fuel consumption in MMBtu [high heating value (HHV)] for all the cases indicated in TABLE I. The January Air Quality Report shall also include information on the amount of fuel consumed, in MMBtu (HHV), in the prior calendar year.

AQ-23 The S-2 HRSG duct burners shall not be operated unless the S-1 CTG is in operation. (BAAQMD-3.)

<u>Verification</u>: This permit Condition will be verified with the implementation of Condition AQ-22.

AQ-24 For the purposes of ensuring compliance with conditions AQ-31, 32, 35, 36, 37, and 38, the duration of any S-1 Combustion Turbine Generator start-up period shall not exceed one hour. The CTG shall not be started up more than once per calendar day. The CTG start-up period shall commence when fuel use at the turbine begins. The start-up period shall be considered over only at the start of a NO<sub>1</sub> and CO continuous emission monitor (CEM) sampling period where the controlled NO<sub>2</sub>, CO, and POC emissions from the turbine each do not exceed their respective baseload emission limits of 3.25 ppmvd NO<sub>2</sub> @ 15 percent O<sub>2</sub>, 3.0 ppmvd CO @ 15 percent O<sub>2</sub>, and 2.6 lb POC per hour. POC emissions shall be based upon the correlation between CO and POC emissions determined under condition AQ-43. (BAAQMD-4)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall include the date and time when the CTG "start up" conditions exceed one hour or when it was started more than once per calendar day. The Air Quality Report shall also include a daily record showing whether the CTG was started up and the duration of the "start up" condition.

AQ-25 For the purposes of ensuring compliance with conditions AQ-31, 32, 35, 36, 37, and 38, the duration of any S-1 Combustion Turbine Generator shutdown period shall not exceed 0.5 hours. The CTG shall not be shutdown more than once per calendar day. The CTG shutdown period will have commenced at the start of a NO, or CO continuous emission monitor (CEM) sampling period where any of the controlled NO, CO, and POC emissions exceed their respective baseload emission limits of 3.25 ppmvd NO, @ 15 percent O<sub>2</sub>, 3.0 ppmvd CO @ 15 percent O<sub>2</sub>, and 2.6 lb POC per hour. The shutdown period shall be considered over when fuel consumption at the turbine ceases. POC emissions shall be based upon the correlation between CO and POC emissions determined under condition AQ-43. (BAAQMD-5)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall include the date and time when the CTG "shutdown" Conditions exceeded one hour and when the CTG was "shutdown" more than once per calendar day, and provide information on the duration of each "shutdown."

AQ-26 Total sumulative S-1 Combustion Turbine Generator start-up time shall not exceed 100 hours during any consecutive twelve month period. (BAAQMD-6)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall include the total number of start-up hours for each prior rolling twelve month average.

AQ-27 Total cumulative S-1 Combustion Turbine Generator shutdown time shall not exceed 50 hours during any consecutive twelve month period. (BAAQMD-7)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall include the total number of shutdown hours for each prior rolling twelve month average.

AQ-28 The S-1 CTG and S-2 HRSG shall be vented to the properly operated and maintained A-1 SCR System and A-2 Oxidizing Catalyst at all times. (BAAQMD-8.)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall provide information on any major problem in the operation of the SCR System and Oxidizing Catalyst for the CTG and HRSG. The information shall include, at a minimum, the date and description of the problem and the steps taken to resolve the problem.

AQ-29 The sulfur content of natural gas burned at this facility (S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler) shall not exceed 0.3 grains per 100 standard cubic feet of natural gas. The natural gas sulfur content shall be guaranteed in writing by the natural gas supplier or verified by laboratory analysis. The written guarantee or laboratory analysis results shall be submitted to the District within 60 days of start-up of the facility. (BAAQMD-9.)

<u>Verification</u>: Within 60 days of start-up of the facility, the project owner shall submit the information required by this Condition to the District.

AQ-30 The stack height of emission point P-1 shall be at least 110 feet above grade. Emission point P-1 is defined as the exit of the common exhaust stack for S-1 CTG and S-2 HRSG, located downstream of the A-1 SCR System and A-2 Oxidation Catalyst. (BAAQMD-10.)

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

AQ-31 Carbon Monoxide (CO) emissions from S-1 CTG and S-2 HRSG at emission point P-1 shall not exceed 3.0 ppmvd CO @ 15% O<sub>2</sub>, averaged over any consecutive three hour period, except during CTG the first 60 minutes of a start-up period and the second 15 minutes of a shutdown periods as defined in conditions AQ-24 and AQ-25, respectively. (BAAQMD-11)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall indicate the date, time, and duration of any violation of this Condition. The project owner shall also include in the reports the rolling three hour CO concentration at 60 minute intervals.

AQ-32 Nitrogen oxide (NO<sub>2</sub>) emissions from the S-1 CTG and S-2 HRSG at emission point P-1 shall not exceed 3.25 ppmvd @ 15% O<sub>2</sub>, averaged over any rolling consecutive three hour period, except during CTG start-up and shutdown periods as defined in conditions AQ-24 and AQ-25, respectively. (BAAQMD-12)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall indicate the date, time, and duration of any violation of this Condition. The project owner shall also include in the reports the rolling three hour NO<sub>x</sub> concentration at 60 minute intervals.

AQ-33 Nitrogen oxide (NO<sub>x</sub>) emissions from S-3 Auxiliary Boiler shall not exceed 25 ppmvd @ 3 percent O<sub>2</sub>, averaged over any consecutive three hour period. (BAAQMD-13.)

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall indicate the date, time, and duration of any violation of this Condition. The project owner shall also include in the reports the rolling three hour  $NO_x$  concentration at 60 minute intervals.

AQ-34 Ammonia (NH<sub>3</sub>) emissions from emission point P-1 shall not exceed 10 ppmvd @ 15 percent O<sub>2</sub>, averaged over any consecutive three hour period. This ammonia emission concentration limit shall be verified by the continuous records of ammonia injection rate to A-1 SCR System. The correlation between CTG and HRSG heat input rates, A-1 SCR ammonia injection rate and corresponding ammonia emission concentration at emission point P-1 and the maximum ammonia injection rate shall be determined in accordance with condition AQ-42. (BAAQMD-15)

Verification: Refer to Condition AQ-42.

AQ-35 Controlled criteria pollutant emission rates from permitted sources, averaged over any rolling consecutive three hour period, shall not exceed the hourly limits specified below in TABLE 2, except during start-up or shutdown periods. (BAAQMD-15.)

AIR TABLE 2
Controlled Criteria Pollutant Emission Rates (lb/hr)
(Excluding Start-up and Shutdown Emissions)

Source	NO,	CO	POC	PM <sub>10</sub>	$\mathrm{SO}_2$
S-1 CTG	21.0	10.6	2.6	8.76	1.54
S-1 CTG and S-2 HRSG Combined	21. <del>5</del> 6	12.1	4.5	9.86	1.6
S-3 Auxiliary Boiler	0.75	0.925	0.07	0.34	0.02
Facility Maximum <sup>2</sup>	22.35	13.0	4.6	10.2	1.62

<sup>\*</sup> Includes emissions from S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler only

Verification: This permit Condition will be verified with the implementation of Condition AQ-42. In addition, the project owner shall develop a computerized system to report hourly, daily, and annual emissions for NO<sub>x</sub>, PM<sub>10</sub>, SO<sub>2</sub>, POC and CO for all the sources and combination of sources included in TABLE 2. In the semiannual Air Quality Report, the project owner shall indicate the date, time, and duration of any violation to the NO<sub>x</sub>, POC and CO limits presented in this Condition. The project owner shall include in the semiannual Air Quality Report hourly emissions as required in this Condition.

AQ-36 Nitrogen Oxide, Carbon Monoxide, and Precursor Organic Compound emissions from the Combustion Turbine Generator during a start-up or shutdown shall not exceed the limits specified in TABLE 3 below. If any of the limits in TABLE 3 are exceeded, then the owner/operator shall demonstrate to the satisfaction of the Air Pollution Control Officer (APCO) that the higher start-up and/or shutdown emission limits will not jeopardize compliance with the maximum daily and maximum annual emission limits specified in TABLES 4 and 5, respectively. The District and the CPM may then (at the discretion of the APCO and CPM) adjust the start up and/or shutdown emission limits specified in TABLE 3. (BAAQMD-16.)

# AIR QUALITY TABLE 3 Combustion Turbine Generator Start-up and Shutdown Emission Limits

Pollutant	Start-up Limits <sup>a</sup> (lbs)	Shutdown Limits <sup>b</sup> (lbs)
Nîtrogen Oxides (NO <sub>x</sub> )	76.5	52.7
Carbon Monoxide (CO)	437.3	238.7
Precursor Organic Compounds (POC)	298.9	253

Based upon a maximum start-up period of I hour

<u>Verification</u>: This permit Condition will be verified with the implementation of Condition AQ-43. In addition, the project owner shall use a computerized system developed to comply with Condition AQ-35 to estimate NO<sub>x</sub> and CO mass flow rates during start-up and shutdown Conditions. In the semiannual Air Quality Report, the project owner shall indicate the date, time, and duration of any violation to the NO<sub>x</sub>, POC and CO limits presented in this Condition. The project owner shall include in the semiannual Air Quality Report hourly emissions as required in this Condition.

AQ-37 Criteria-pollutant emissions from the project (S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler) shall not exceed the limits specified below in TABLE 4 during any calendar day. (BAAQMD-17.)

AIR QUALITY TABLE 4
Daily Criteria Pollutant Emission Limits (lbs/day)

Pollutant	Emission Limit (lbs/day)
Nitrogen Oxides (NO <sub>x</sub> )	615.1
Carbon Monoxide (CO)	949.3
Precursor Organic Compounds (POC)	653.4
Particulate Matter (PM <sub>10</sub> )	235.23
Sulfur Dioxide (SO <sub>2</sub> )	38.0

h Based upon a maximum shutdown period of 0.5 hour

<u>Verification</u>: As part of the semiannual Air Quality Report, the project owner shall provide data on daily emissions as required by this Condition.

AQ-38 Criteria pollutant emissions from the project (S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler) shall not exceed the limits specified below in TABLE 5 during any consecutive twelve month period. In accordance with the provisions of Regulation 2, Rule 4, if the annual cumulative precursor organic compound (POC) emissions ever equal or exceed 50 tons over any consecutive twelve month period, the facility owner shall reimburse the District with emission reduction credits for all POC offsets provided from the District Small Facility Banking Account. (BAAQMD-18.)

AIR QUALITY TABLE 5
Annual Criteria Pollutant Emission Limits (tons/yr)

Pollutant	Emission Limit (tons/year)
Nitrogen Oxides (NO <sub>x</sub> )	97.162
Carbon Monoxide (CO)	85.2
Precursor Organic Compounds (POC)	4 <del>6.5</del> 42.6
Particulate Matter (PM <sub>10</sub> )	40.37
Sulfur Dioxide (SO <sub>2</sub> )	6.74

<u>Verification</u>: As part of the January Air Quality Report, the project owner shall provide data on yearly emissions as required by this Condition.

AQ-39 Prior to the initial operation of S-1 CTG and S-2 HRSG, the project owner shall install, calibrate, and operate a District-approved CEM and recording system for nitrogen oxides, carbon monoxide, and either oxygen or carbon dioxide for emission point P-1. The number and location of these monitors shall be subject to District approval. The CEM and recording system shall comply with the applicable provisions of 40 CFR part 72 (Title IV of the Clean Air Act). (BAAQMD-19.)

<u>Verification</u>: 120 days before initial operation, the project owner shall submit to the District and the CPM a continuous emissions monitoring procedure. Within 60 days of receipt of the procedure, the District and the CPM will advise the project owner of the acceptability of the procedure.

AQ-40 Prior to the initial operation of S-I CTG, S-2 HRSG, and S-3 Auxiliary Boiler, the project owner shall install, calibrate, and operate District-approved—CEM continuous monitoring and recording system for fuel consumption at S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler and ammonia injection rate at A-1 SCR System. The number and location of these monitors shall be subject to District approval. (BAAQMD-20.)

<u>Verification</u>: 120 days before initial operation, the project owner shall submit to the District and the CPM a CEM procedure for the CEM and recording for fuel consumption. Within 60 days of receipt of the procedure, the District and the CPM will advise the project owner of the acceptability of the procedure.

AQ-41 The project owner shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District regulations and permit Conditions. The location of these sampling ports and platforms shall be subject to District approval in consultation with the CPM. (BAAQMD-21.)

<u>Verification</u>: 120 days before initial operation, the project owner shall submit to the District and the CPM a procedure for the installation of stack sampling ports and platforms. Within 60 days of receipt of the procedure, the District will advise the project owner and the CPM of the acceptability of the procedure.

AQ-42 Within 60 days of start-up, and annually thereafter, the project owner of S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler shall conduct a District-approved source test of these sources at maximum operating rates to determine compliance with Conditions AQ-31 through 35 and to verify the accuracy of the CEM required in Condition AQ-39. The test shall also quantify the correlation between CO and POC emissions during baseload operation of S-1 CTG and S-2 HRSG. This correlation shall be utilized to determine compliance with the POC emission limits of Conditions AQ-35, 37, and 38. The source test shall also determine the correlation between the CTG and HRSG heat input rates. A-1 SCR system ammonia injection rate and the corresponding ammonia emission concentration at emission point P-1. Source test results shall be submitted to the District within 30 days of the date of the tests. In accordance with District Regulation 2-1-411, the project start-up period may be extended upon receipt of a written request from the owner. (BAAQMD-22.)

<u>Verification</u>: 60 days before initial operation of the cogeneration project, the project owner shall submit to the District and the CPM a detailed performance test procedure necessary to comply with this Condition and with Condition AQ-46. The District will notify the project owner and the CPM of the approval, disapproval, or proposed modifications to the procedure within 30 days of receipt of the procedure. The project owner shall incorporate the District's and Staff's CPM's comments on or modifications to the procedure. 60 days before any subsequent annual compliance source tests, the project owner shall submit to the District and the CPM any

proposed changes to the original source test procedure. The District will notify the project owner and the CPM of the approval, disapproval, or proposed modifications to the modified source test procedure within 30 days of receipt of the project owner's proposed modifications of the annual source test plan. The project owner shall incorporate the District's and Staff's comments on or modifications to the annual source test procedure.

The project owner shall also notify the District and the CPM within 7 working days before the project begins initial operation and/or plans to conduct source testing as required by this Condition.

Source test results shall be submitted to the District within 30 days of the date of the tests.

AQ-43 Within 60 days of start-up, the project owner of S-1 CTG shall conduct a District-approved source test utilizing external CEM to determine compliance with Condition AQ-36. The test shall determine total CO, POC, and NO, emissions during a start-up and a shutdown. The test shall also quantify the correlation between CO and POC emissions during a start-up and a shutdown. This correlation shall be utilized to determine compliance with the POC emission limits of Conditions AQ-24, 25, 36, 37, and 38. Source test results shall be submitted to the District within 30 days of the date of the tests. (BAAQMD-23.)

<u>Verification</u>: 60 days before start up of the project, the project owner shall submit to the District and the CPM a detailed performance source test procedure designed to satisfy the requirements of this Condition. The District and the CPM will notify the project owner of the approval, disapproval, or proposed modifications to the procedure within 30 days of receipt of the procedure. The project owner shall incorporate the District's and Staff's CPM's comments on or modifications to the procedure. The project owner shall also notify the District and the CPM within 7 working days before the cogeneration project begins initial operation and/or plans to conduct source test as required by this Condition.

Source test results shall be submitted to the District within 30 days of the date of the tests.

AQ-44 The project owner shall calculate projected annual NO, and POC emissions from \$3.50 CTG, \$3.2 HRSG, and \$3.3 Auxiliary Boiler based upon the source test results required in Conditions AQ-42 and 43. If the projected annual NO, emissions exceed 100 tons per year or the projected annual POC emissions exceed 50 tons per year, then the project owner shall modify the operating parameters of the facility as necessary to insure continued compliance with Condition AQ-38. The operating parameters subject to modification include, but are not limited to, total hours of start-up and shutdown and heat input limits. The APCO may modify permit Conditions relating to these operating parameters as deemed necessary to insure continued compliance with AQ-38. (BAAQMD-24.)

<u>Verification</u>: As part of the January Air Quality Report, the project owner shall provide data on yearly emissions as required by this Condition.

AQ-45 Within 60 days of start-up, the project owner of S-1 CTG and S-2 HRSG shall conduct a District-approved source test (conducted at maximum operating rates) to determine the emission rates (in pounds per MMBTU) of the carcinogenic compounds listed below in TABLE 6 from the project. The owner/operator shall use these emission rates and maximum permitted fuel usage rates and hours of operation to calculate maximum projected annual emissions (lb/yr) for each carcinogenic compound. The owner shall compare these projected maximum annual emissions to the emission limits listed in TABLE 6 below.

AIR QUALITY TABLE 6
Annual Emission Limits for Carcinogenic Compounds

Compound	Emission Limit (lb/yr)
Formaldehyde	4,652
Benzene	600
Polycyclic Aromatic Hydrocarbons	84.4

If any one of the projected emission rates for each compound exceeds their respective limits listed in TABLE 6, then the owner shall perform a revised health risk assessment to determine the total increased carcinogenic risk to the maximally exposed individual resulting from the emission of the compounds. The risk assessment shall be subject to District review and approval and shall include non-inhalation pathways of exposure. The risk assessment shall be submitted to the District within 60 days of the source test date. If the total increased carcinogenic risk exceeds 0.29 10 in one million, then the owner shall execute the following:

- a. Submit an application for a change of permit Conditions to the District, and petition the Commission, requesting revised emission limits for the compounds listed in TABLE 6.
- b. Perform a carcinogenic formal health risk assessment (including non-inhalation pathways of exposure) at the projected maximum annual emission rates of each compound to determine the increased carcinogenic risk pursuant to the District's BAAOMD's Risk Management Policy. In accordance with this policy, the owner/operator shall install the Toxic Best Available Control Technology (TBACT) as determined by the District, on S-1 CTG and S-2 HRSG if the calculated carcinogenic risk exceeds one in a million. (BAAOMD-25)

<u>Verification</u>: Please refer to the verification to Condition AQ-42.

AQ-46 Within 180 days of the issuance of the Authority to Construct, the project owner shall contact the District's Technical Services Division regarding requirements for the CEM continuous monitors, recorders, sampling ports, platforms, and source tests required by Conditions AQ-39 through 43 and 45. All source testing and emission monitoring shall be conducted in accordance with the applicable provisions of the District's Manual of Procedures. (BAAQMD-26.)

<u>Verification</u>: Compliance with Conditions AQ-43, AQ-44 and AQ-46 shall be deemed as verification of this Condition.

AQ-47 The project owner of S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler shall maintain appropriate records including, but not limited to, fuel usage rates, hours of operation, A-1 SCR System ammonia injection rate, CEM data records, and start-up and shutdown duration to verify compliance with permit Conditions. Prior to initial operations of S-1 CTG, S-2 HRSG, and S-3 Auxiliary Boiler, the owner/operator shall obtain District approval of the record-keeping formats and systems. These records shall be retained on-site for a minimum of two years from the date of entry and made available to District representatives upon request. (BAAQMD-27.)

<u>Verification</u>: During site inspection, the project owner/operator shall make the plant logs available to the District, CARB, and the Staff CPM. In the event of plant breakdown, the project owner shall notify the BAAOMD.

60 days before start up of the project, the project owner shall submit to the District and the CPM a detailed description of the record keeping systems that will be implemented to comply with this Condition. The District and the CPM will notify the project owner of the approval, disapproval, or proposed changes to the record keeping system plan within 30 days of receipt of the plan. The project owner shall incorporate the District's and Staff's comments on or modifications to the system plan.

AQ-48 Prior to the issuance of the Authority to Construct for the project, emission offsets shall be submitted to the District in the amount of 111.738 tons per year of Nitrogen Oxides (NO<sub>x</sub>) and/or Precursor Organic Compounds (POC). These emission offsets shall be in the form of valid District Emission Reduction Credit Certificates. (BAAQMD-28.)

<u>Verification</u>: Within 5 working days after the District issues the Authority to Construct, the project owner shall submit to the CPM copies of the emission offsets contracts and the Authority to Construct.

AQ-49 Notwithstanding any reporting requirements specified in District Regulations which apply to the operation of the project, the owner/operator shall notify the District Permit Services Division in writing of any violation of these permit Conditions within 96 hours of the occurrence of the violation. (BAAQMD-29.)

<u>Verification</u>: During site inspection, the project owner shall make the plant logs available to the District, CARB, and the Staff CRM.

AQ-50 Prior to the issuance of the Permit to Operate for this facility and if deemed necessary to insure compliance with the benzene emission limit of AQ-45, the APCO may impose permit Conditions requiring the maintenance of a minimum inlet temperature for the A-2 Oxidizing Catalyst bed and the installation of monitoring and recording equipment necessary to verify compliance with that temperature condition. (BAAQMD-30 of 30.)

<u>Verification</u>: Refer to Condition AQ-42.

AQ-51 The duration of any Gas Turbine "start-up" may exceed one hour during the initial commissioning start-up phase period, not to exceed a total of 45 operating days, beginning with first firing of fuel in the Gas Turbine. For the purpose of these permit conditions AQ-51 through 63, "operating day" is defined as any calendar day during which fuel is fired in the gas turbine or HRSG (BAAOMD 31)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall include the date and time when the CTG "start-up" duration, as defined in Condition AQ-24, exceeded one hour.

AQ-52 The duration of any Gas Turbine "shutdown" may exceed one-half hour during the initial commissioning start up phase period, not to exceed a total of 45 operating days, beginning with first firing of fuel in the Gas Turbine. (BAAQMD-32)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall include the date and time when the CTG "shutdown" duration, as defined in Condition AQ-25, exceeded one-half hour.

AQ-53 Gas Turbine start-up time occurring during the initial commissioning start up phase period, not to exceed a total of 45 operating days beginning with first firing of fuel in the Gas Turbine, shall not be used in calculating the 12 month cumulative Gas

Turbine start-up time limit of 100 hours, as permitted by specified in Condition AQ-26 of this Commission Decision. (BAAQMD-33)

<u>Verification</u>: As part of the verification requirements of Condition AQ-26, the project owner shall include the calendar date when the total number of start-up hours for the first 12-month period commenced.

AQ-54 Gas Turbine shutdown time occurring during the initial commissioning start up phase period, not to exceed a total of 45 operating days beginning with first firing of fuel in the Gas Turbine, shall not be used in calculating the 12 month cumulative Gas Turbine shutdown time limit of 50 hours, as permitted by specified in Condition AQ-27 of this Commission Decision. (BAAQMD-34)

<u>Verification</u>: As part of the verification requirements of Condition AQ-27, the project owner shall include the calendar date when the total number of start-up hours for the first 12-month period commenced.

AQ-55 There shall will be no limitation on the number of daily Gas Turbine startup/shutdown sequences during the initial commissioning start-up phase period, not to exceed a total of 45 operating days, beginning with first firing of fuel in the Gas Turbine. (BAAQMD-35)

<u>Verification</u>: As part of the first semi annual Air Quality Report, the project owner shall include the date and number of start-up/shutdown sequences during the first 45 operating days of the Gas Turbine.

AQ-56 Condition AQ-28 of the Decision, requiring the Gas Turbine and HRSG to vent to a properly operated and properly maintained oxidation catalyst and SCR system, shall not be applicable apply during the initial commissioning start-up phase period not to exceed 180 firing hours without catalysts in place. Firing the Gas Turbine without venting the flue gases to the entalyst systems shall not exceed 180 firing hours. Such operation of the Gas Turbine and HRSG without catalysts shall be limited to discrete commissioning activities reasonable necessary to perform initial adjustments to the gas turbine/HRSG to tune, calibrate, and adjust the equipment and to set its controls and to integrate the same with the plant automated control system and for steam blow of the HRSG. Upon completion of these activities, the project owner shall provide written notice to the District and the unused balance of the 180 firing hours without catalysts shall expire... (BAAQMD-36)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall provide information, including length of firing without catalyst control, and the circumstances during the commissioning start-up phase when the SCR and oxidation catalyst systems were not in use.

AQ-57 Conditions AQ-31 and AQ-32 of this Decision limiting the emission concentrations of CO and NO<sub>x</sub>, respectively, from the Gas Turbine and HRSG, shall not be applicable apply during the initial commissioning start-up phase period, not to exceed 45 480 operating days hours, beginning with first firing of fuel in the Gas Turbine. However, any unused operating hours deleted in accordance with condition AQ-56 shall be deleted from the available 480 operating hours cited above for the Gas Turbine/HRSG. Furthermore, the commissioning period shall end upon commencement of the District approved source testing of the Gas Turbine/HRSG and any unused operating hours of the available 480 hours shall expite (BAAQMD-37)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall include the date, time, and duration of any exceedence of the concentration limits specified in Conditions AQ-31 and AQ-32 during the 45-day commissioning start-up phase.

AQ-58 Condition AQ-33 of this Decision limiting the NO<sub>x</sub> emission concentration from the Auxiliary Boiler shall not be applicable during the initial commissioning start-up phase period, not to exceed 60 total Auxiliary Boiler firing operating hours. (BAAQMD-38)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall include the date, time, and duration of any exceedence of the NO<sub>x</sub> concentration limits specified in Condition AQ-33 during the 45-day commissioning start-up phase.

AQ-59 The portions of Condition AQ-35 of this Decision limiting hourly emissions of NO<sub>x</sub>, CO, and POC emissions from the Gas Turbine and HRSG, as well as the limitations of facility maximum emissions, and limiting facility maximum hourly NO<sub>x</sub>, CO, and POC emissions shall not be applicable apply during the initial commissioning start-up phase period, not to exceed 45 operating days, beginning with the first firing of fuel in the Gas Turbine. The portions of Condition AQ 36 of this Decision-limiting CO and POC emissions during a one hour Gas Turbine start up shall be applicable during the commissioning start up phase as facility hourly emissions limitations. Facility hourly NO<sub>x</sub> emissions shall be limited to 160 lbs/hour during the commissioning start-up phase. During the initial commissioning period, total combined hourly emissions of NO<sub>x</sub>, CO<sub>x</sub> and POC from the Gas Turbine and HRSG shall not exceed the following levels:

NO. 160 15/hr CO: 437 3 lb/hr POC: 298 9 lb/hr

# (BAAQMD-39)

<u>Verification</u>: In the first semiannual Air Quality Report, the project owner shall include the date, time, and duration of any exceedence of the  $NO_x$ , CO, and POC hourly emission limits of Condition AQ-35.

AQ-60 The portions of Condition AQ-35 of this Decision limiting hourly emissions of NO., CO, and POC from the Auxiliary Boiler shall not be applicable apply during the initial commissioning start up phase period not to exceed 60 Auxiliary Boiler firing operating hours. (BAAQMD-40)

<u>Verification</u>: In the first semiannual Air Quality Report, the project owner shall include the date, time, and duration of any exceedence of the  $NO_x$ , CO, and POC hourly emission limits of Condition AQ-35.

AQ-61 The portions of Condition AQ-37 of this Decision limiting daily emissions of NO<sub>x</sub> from the Gas Turbine, HRSG, and Auxiliary Boiler shall not be applied apply during the initial commissioning start up phase period, not to exceed a total of 30 operating days, beginning with first firing of fael in the Gas Turbine. During the 30 operating days when the daily NO<sub>x</sub> deily emission limit in Condition AQ-37 is does not applicable apply, total combined NO<sub>x</sub> emissions of NO<sub>x</sub> from the Gas Turbine, HRSG, and Auxiliary Boiler shall not exceed 1500 pounds per calendar day. (BAAOMD-41)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall provide data on the daily NO<sub>x</sub> emissions during the 30 operating days within the commissioning start-up phase described in this Condition.

AQ-62 Notwithstanding the provisions of Condition AQ-62 61, daily NO<sub>x</sub> emissions shall not exceed the limitation in Condition AQ-27 37 on any day that the District predicts an excess of the Federal ambient air quality standard for ozone, is declared a "Spare the Air Day" by the District. A " Spare the Air Day" is declared when the ambient ozone concentration forecast exceeds 75 on the Pollutant Standards Index. (BAAQMD-42)

<u>Verification</u>: As part of the first semiannual Air Quality Report, the project owner shall provide documentation from the District identifying those days that the District predicts a violation of the federal one-hour ambient air quality standard for ozone.

AQ-63 The requirements of condition AQ-34 shall be waived during the SCR System ammonia injection adjustment period, not to exceed 120 operating hours, commencing with the first injection of ammonia into the SCR system. The project owner shall utilize parametric testing to determine the NO<sub>x</sub> reduction achieved by the SCR system, and such testing shall be concluded at lower levels of ammonia flow. Furthermore, the project owner shall utilize automated controls to set ammonia flow so that the corresponding ammonia injection rate shall not reflect a calculated ammonia emission rate in excess of 40 ppm, it being acknowledged that testing for ammonia emissions shall not be required during the 45 operating day commissioning period: (BAAQMD-43)

<u>Verification</u> As part of the first semi-annual Air Quality Report, the project owner shall report the daily hours of operation when ammonia is injected into the SCR system.

### PUBLIC HEALTH

The Commission appreciates the concerns of the public, whether supporters or opponents, about potential health impacts from the project and its addition to the Bayview Hunters Point community. We acknowledge that the community has been burdened by an industrial past which has left behind toxic contamination of soil and groundwater and, to some degree, the residual air pollution from PG&E's existing powerplants. Bayview Hunters Point is the locale for a federal Superfund Site at the Hunters Point Naval Shipyard, a state superfund site, the wastewater treatment plant, PG&E's powerplants, an animal rendering plant, and mimerous other leaking or non-leaking storage tanks or disposal sites. The Intervenors have posited a linkage between these factors and the incidence of cancer. Ultimately, the Commission must explore this linkage, as well as address the specific issues of whether the SFEC project will create additional harmful health effects or exacerbate any that may exist

Perhaps the best way to begin addressing these matters is to determine how the powerplant could affect any individual member of the community. There are three generally accepted "pathways" for environmentally caused health impacts: (1) inhalation, meaning breathing; (2) ingestion, meaning eating; and (3) contact, meaning touching or indirect absorption.

Two of these—ingestion and contact—are easily addressed. There will be no public access to the powerplant which would permit contact with the facility, including its machinery and on-site chemical storage. The transmission line, fuel line, water lines, and steam line will all be buried underground. The project will not discharge effluents or chemicals to the groundwater, any public potable water source, or the Bay.

All chemicals and substances which are delivered onto the site are required to be in approved trailers that will travel along approved routes at designated times intended to avoid accidents and minimize contact with the public. These chemicals will be transferred to on-site storage in a manner best calculated to prevent discharges. The Commission has addressed all

of these matters with Conditions of Certification so that any potential public health and safety impacts are reduced to insignificance.

Specifically, potential impacts on to public and worker health resulting from accidental or non-routine releases of hazardous materials are addressed in the HAZARDOUS MATERIALS MANAGEMENT and INDUSTRIAL SAFETY AND FIRE PROTECTION sections, respectively. A discussion of health effects from electromagnetic fields—may be is found in the TRANSMISSION LINE SAFETY AND NUISANCE section. Pollutants released from the Management of contaminated soils, stormwater drainage at the site, and project effluent released via wastewater streams to the Southeast Water Pollution Control Plant surface water bodies or the public sewer system are discussed in the SOIL AND WATER RESOURCES section. Plant releases in the form of hazardous and nonhazardous wastes are described in the WASTE MANAGEMENT section.

The remaining pathways or possible avenues for the project to create or exacerbate public health effects are inhabition and indirect absorption; these are inextricably related to the issue of air quality.

### 1. Health Based Air Quality Standards.

The federal Clean Air Act requires that federal primary ambient air quality standards be set at levels requisite to protect the public's health, including an adequate margin of safety (42 U.S.C. § 7409(b)(1).) The California Air Resources Board (CARB) is required by California law to adopt state standards in consideration of the public health and safety including "health, illness, and irritation to the senses". (Health & Saf. Code, § 39606.) Under the federal Aect, state standards must be at least as strict as federal standards and may be more stringent. California has set more stringent standards for most pollutants and has set standards for hydrogen sulfide and sulfates, which do not have national standards.

The state standards, set by the CARB, are intended to protect those members of the population considered to be at highest risk to adverse health effects from exposure to air pollutants. Generally, such groups include the young, elderly, or those with existing illness. For a particular pollutant, the standard is set based on that health impact which is the most sensitive indicator of an adverse effect to the most sensitive population subgroup. An adverse effect is considered one which causes noticeable discomfort, causes an individual to reduce or curtail normal activities, or causes a health response requiring medication or medical attention, whether or not the effect is reversible. Each standard set by the State includes a margin of safety. Thus, as long as levels of a pollutant do not exceed the standard, no adverse health effects from that pollutant would be expected, even in sensitive members of the population. Recommendations for the standards come from scientists and physicians with CARB's Office of Environmental Health Hazard Assessment, and an independent advisory panel based on their review of the most recent research on the health effects of air pollution. State law requires standards to be reviewed whenever substantial pertinent new information becomes available and, in any event, at least once every five years. (Cal. Code Regs., tit. 17, § 70101.)

Each standard consists of two parts. One part establishes the concentration of a pollutant allowed in ambient air, while the second specifies the duration, or time period, over which the concentration is to be measured. Criteria pollutants which have both federal and California standards include ozone (0<sub>3</sub>), carbon monoxide (CO), particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and airborne lead. (FSA, Vol. 1. pp. 193-194.)

These criteria poliutants are discussed at length in the AIR QUALITY section of this Decision. Members of the public, however, have expressed much concern over the health impacts of PM<sub>10</sub> emissions. The pathways of these emissions are discussed below.

III

III

III

# 2 PM., Pathways.

Particulate matter consists of small particles of various substances less than 10 microns in size. ItPM<sub>10</sub> includes elements such as carbon, lead, and nickel; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and soil. These substances can occur in the form of solid particles or aerosols. Some particles are emitted directly into the atmosphere, while others result from gases which are transformed into particles through physical and chemical processes. The size, chemical composition, and concentration of the ambient PM<sub>10</sub> can vary considerably from area to area and from season to season within the same area. (FSA, Vol. I, p. 195.)

PM<sub>10</sub> can be grouped into two general sizes of particles: fine and coarse. The fine particles include compounds of nitrates, organics, sulfates, ammonium, and lead as well as elemental carbon such as soot. The fine fraction may also include many compounds that have been identified as toxic, such as benzo(a)pyrene, which is both a carcinogen and mutagen. Coarse particles consist mainly of soil minerals such as oxides of silicon, aluminum, calcium, and iron, as well as particles from tires, sea salt, pollen, and spores. Because PM<sub>10</sub> can include many different types of particles with widely divergent chemical characteristics, potential health effects depend upon the constituent make-up of PM<sub>10</sub> to which persons may be exposed.

The size of the particles inhaled determines where they are deposited in the respiratory system. Coarse particles are deposited most often in the nose and throat. Fine particles are deposited most often in the bronchial tubes and in the lung's air sacs, with the greatest percentage being deposited in the air sacs. Particles deposited in the air sacs are removed more slowly by the body than particles in either the nose and throat or the bronchial tubes. Because of the longer residence time, they have a greater opportunity to cause adverse health effects. (FSA, Vol. I, p. 196.)

Epidemiological data demonstrate that exposure to particulate matter is associated with increased incidence of respiratory illness, chronic bronchitis, bronchoconstriction, and decreased

pulmonary function. Recent studies have also shown an association between mortality rates and particulate air pollution. (Ex. 23; Dockery et al. and Pope et al.) However, such studies have not provided detailed information regarding chemical speciation of the particles in the study area. Among the adverse effects associated with short-term exposure to particulate matter are increases in the rate of asthma attacks and, to a more limited extent, a correlation between hospital and emergency room admissions and particulate levels. Studies of chronic (long-term) effects have shown that both children and adults suffer increased frequency of respiratory illness and reduced pulmonary function with exposure to increasing levels of particulate matter. (FSA, Vol. I, p. 196.)

The state 24-hour and annual standards for particulate matter are based on studies which describe the lowest probable effects levels and which represent the lowest pollution levels at which health effects were investigated. The studies included investigations of increased rates of asthma attack, increased mortality, and changes in the health status of bronchitis patients.

The state 24-hour PM<sub>10</sub> standard 50 up m<sup>3</sup> is intended to prevent exacerbation of symptoms in sensitive patients with respiratory disease, declines in decreased pulmonary function (especially in children), and excess mortality from short-term exposure. (Cal. Code Regs., tit. 17, § 70200.) This standard is intended to provide a small-margin of safety to account for the possibility of effects occurring at lower levels, and is substantially more stringent than the federal 24-hour standard (150 up m<sup>3</sup>).

The state annual PM<sub>10</sub> standard (30 ug/m<sup>3</sup>) is based on studies which show that long-term exposure to PM<sub>10</sub> causes decreased breathing capability and increased respiratory illness in susceptible populations such as children. The annual standard is also based on the lifetime risk of cancer from exposure to carcinogenic particles known to be present in this size fraction. (FSA, Vol. I, pp. 194-196.)

### 3. Summary of the Evidence.

The Bay Area Air Quality Management District (BAAQMD or District) performed a public health impacts analysis as part of its Determination of Compliance. Since the Its New Source Review (NSR) applies to health-based air quality standards for criteria pollutants, the BAAQMD determinationed that the project complies with all applicable laws and standards within its purview. necessarily means This raises the presumption that there are no significant direct health impacts from the project's criteria emissions. As to non-criteria pollutants, the BAAQMD conducted a health risk assessment of carcinogenic or toxic compound emissions. The BAAQMDIt determined that there was were no significant public health impacts from such emissions. (FDOC, pp. 2, 6 & 11; see AIR QUALITY discussion for details.)

In addition to providing information to BAAQMD and to the Commission, SFEC conducted its own health impacts analysis and reached the same conclusions as the District. Staff concurred with the analyses of both BAAQMD and SFEC except for the potential significant health impact of PM<sub>10</sub>. Staff's believed that project PM<sub>10</sub> emissions could create a significant health impact since the local area on occasion exceeds position is that any exceedence of the state's 24-hour PM<sub>10</sub> standard-automatically creates a significant health impact. (FSA Vol. I, pp. 220.)—On this basis, the Staff proposed a mitigation requirement for PM<sub>10</sub> offsets. (FSA Vol. I, pp. 193-213.) To meet this concern SFEC offered, as a community benefit, to resod two dust-producing playgrounds near the project area. Staff supported this additional measure; it is incorporated as Condition of Certification SOCIO-S.

Intervenors' witnesses testified that the Bayview Hunters Point area already is overburdened with hazardous and toxic sites and pollution, and therefore should not be exposed to the 49 tons per year (tpy) of project PM<sub>10</sub> emissions from the project. Intervenors stated that for such reason the community suffers a disproportionate level of health impacts, and so should be considered a particularly sensitive area. Intervenors They also argued that any additional PM<sub>10</sub> emissions are significant. Intervenors' statistician witness (Dr. Fairley) testified that PM<sub>10</sub> emissions from this project, while only a fraction of a percent (0.0045% to 0.0158%) of total

area emissions, can nonetheless be statistically associated with 2-6 additional deaths per year in the affected population. (9/12/95 RT 144; Fairley, p. 6.)<sup>101</sup> While Intervenors' principal This witness further testified that a "clear-cut" threshold at which there were no PM<sub>10</sub> effects has not been established, (RT 154.) hHe-stated opined that the state 24-hour PM<sub>10</sub> 50-ug/m<sup>3</sup> (PM) standard (50 ug/m<sup>3</sup>) is, not unreasonable from a "totally practical point of view... (9/12/95 RT 155.) Intervenors' witness also conceded that the 50 ug/m<sup>3</sup> is " close to impossible to reach, " (RT 155.6-7.) and In Dr. Fairley's view, even if the standard were lower, "there would be no way that we could reach it." (RT 155: 8-9.) "Furthermore, eEven a "pristine" area occasionally will reach 50 ug/m<sup>3</sup>." (RT 155: 10-11.)

With regard to the causes of the winter violations of the state 24-hour  $PM_{10}$ -annual standard, Intervenors'this witness attributed them to the combined effects of wood smoke (fireplaces), vehicles, and ammonium nitrate. (RT 157 - 158.) To address these violations, the witness suggested that since not every winter day is high in  $PM_{10}$ , the public could be advised of mandatory "no burn" days based on weather predictions. (RT 158.)

Dr. Fairley was also asked On the key question of whether, assuming PM<sub>10</sub> mitigation measures including playground resolding and diesel truck/bus offsets were eliminated, the SFEC project-mustabould be denied certification on public health grounds, (RT 151-52.) Intervenors' witness stated that this option is not the Commission's only course of action to protect public health, even if offsets from playground resolding and diesel bus/truck offsets are infeasible. (RT 152.) In this context, he expressed the His opinion is that significant health effects result from poverty, so that focused economic benefits from the project would be an appropriate, if not fully compensatory, measure a possible practical (though not scientific) compromise to mitigate the project's impacts. (RT 152-53.)

The Intervenors also presented three epidemiological studies (Ex. 22, 23 and 24) to support their position-about the that the SFEC project's PM<sub>10</sub> emissions will cause significant

Transcript references are to 9/12/95 September 12 1995 unless otherwise indicated.

health impacts of PM<sub>10</sub>. It should be understood that the epidemiological These studies deal generally with two sets of statistics. One data base consists of health records, including death records. The other data base is air pollution information, including specific information about particulates. By cross-matching data, the studyies attempt to determine whether there is an association between an air quality event or condition and a human health condition. Generally, given the statistical method, a "cause and effect" is not asserted, but rather a statistical association.

The Intervenors have the burden of establishing the applicability of these studies to this particular case. (Cal. Code Regs., tit. 20, §-1748(f).)

The average annual PM<sub>10</sub> concentration in San Francisco is 30 ug/m<sup>2</sup>. The study had no data points as low as 30 ug/m<sup>2</sup>.

Exhibit 22, for example, is a 1987 statistical study using annual mortality rates in various cities compared to annual average concentrations of particulates. The data points in Figure 2 of the study are all concentrated within 50-100 ug/m³ range. Exhibit 24 made the same type of comparison for London, England; Ontario, Canada; Steubenville, Ohio; Philadelphia, Pennsylvania; San Jose; and Los Angeles. using total suspended particulate (TSP) concentrations. Assuming PM<sub>10</sub> to be approximately 50 percent of the TSP concentrations, the annual mean level of PM<sub>10</sub> concentrations for London rangedwas 80 ug/m³, from a high of 270 ug/m³ to below 70 ug/m³; the annual mean was 70 48 ug/m³ in Ontario; 61 ug/m³ for Steubenville; and 42 ug/m³ for Philadelphia; were each at 111 ug/m²; 37 ug/m³ for San Jose; data was not stated in ug/m³; and in Los Angeles; was 65 ug/m.³ (Ex. 24, Table 1.) There were no cities in the study with average annual PM<sub>10</sub> concentrations as low as San Francisco's at 30 ug/m³.

Exhibit 23 compared data on particulate concentrations against statistics showing a change in death rate or other indicators of respiratory disease. The study concluded a statistical association existed and then attempted to establish an association of increased health impact for

each 10 ug/m<sup>3</sup> increase in  $PM_{10}$  concentration. The authors of this study cite the foregoing two studies and others concerning the association of mortality/health impacts with high annual concentrations of  $PM_{10}$ .

Post Hearing Submissions. Following the initial evidentiary hearings, Intervenors submitted a preliminary report of the San Francisco Department of Public Health (DPH) addressing incidences of cancer in the Havview Hunters Point community. During the comment period on the Presiding Member's Proposed Decision, Intervenors requested the Committee take administrative notice of the DPH's revised version of the report (Motion dated November 27, 1995.) In this Revised Report (November 1995), the DPH interpreted collected data to demonstrate that "the incidence of cancer of the cervix in women of all races to be considerably higher" in Bayview Hunters Point than otherwise would be expected based on San Francisco or Bay Area rates (Revised Report, p.3.) Similarly, the Revised Report found an increased rate of breast cancer among African-American women under 50. (Id., p.4.) The Revised Report details various limitations of the study as performed (fd., pp. 5-6) and states that, "[g]iven the limitations, , no definitive conclusions can be made about the cause of the increase in breast and cervical cancer," (1d, p:6.) The Revised Report does note, however, that several scientists "have proposed that environmental contaminants may stimulate the development of breast concentration of heavy industry in the Bayview/Hunters area, the higher incidence of breast cancer may be related to environmental exposures." (Id., p.6.) Regarding this incidence, the Revised Report concludes that "... the evidence that environmental contaminants may... stimulate breast cancer development requires further studies on the exposure of women living in the Bayview area to these contaminants," (Id., p.8.)

SFEC submitted three additional opinions concerning the DPH report and public health effects from project emissions in its November 27, 1995 comments. Although such information is hearsay in nature and cannot be used solely to support a finding, it may be used to supplement or explain other evidence. (20 Cal. Code Regs., § 1212(d).) In this context, SFEC's submittal

contains a letter from Dr. Otto G. Raabe, an expert on inhalation toxicology at the Institute of Toxicology and Public Health at the University of California, Davis, concerning his opinion on natural gas combustion PM<sub>10</sub> and its chemical speciation. Dr. Raabe, who is a technical reviewer for the EPA of documents regarding PM<sub>10</sub>, describes PM<sub>10</sub> from natural gas combustion as a substance that is "chemically inert and innocuous," and states that it contains "none of the carcinogenic or toxic agents" generally associated with PM<sub>10</sub>. (Dr. Raabe, Nov. 27, 1995, p. 5.) Dr. Raabe also states that natural gas PM<sub>20</sub> particles "are in the range of sizes least likely to be deposited in the human respiratory tract during inhalation, and are primarily (about 70%) exhaled rather than being deposited "(Id., at p. 3.). By contrast, wind blown dust is more likely to be deposited in the respiratory tract. (Ibid.) He adds that "there are no known or plausible mechanisms of cancer induction for the small exposures that members of the public will receive from this [powerplant] source." (Id. at p. 5). Dr. Raabe concludes: "It is my opinion that the impact on public health by this proposed project will be negligible." (Ibid.)

An additional letter submitted by SFEC, from the International Epidemiology Institute, Ltd., addresses possible reasons for the elevated levels of cervical and breast cancer noted in the Revised Report. This letter confirms the report's acknowledged limitations, and concludes that "...the weight of experimental and epidemiological evidence indicates that the type of emissions from the proposed San Francisco Energy Company Cogeneration Plant would not affect the risk of cancer, including cancer of the cervix, breast or prostate." (emphasis in original, p.2).

The final letter submitted by SFEC, from Dr. John Whysner of Washington Occupational Health Associates, Inc., addresses the emissions of the proposed project as detailed in the FDOC in relation to the DPH's Revised Report. Dr. Whysner notes that "... no chemical agent has ever been proven to cause breast cancer in humans, according to the available scientific information." (November 20, 1995 letter, p.2). He also states that "... none of the emissions from the proposed powerplant have been implicated as a causative agent for breast cancer [in] humans." [Ibid.] Noting that the Air District has already quantified the project's emissions. Dr. Whysner concludes that:

the risks from all emissions will not impact the existing cancer rate. Consequently, there is no scientific basis to conclude that the emissions from the proposed powerplant will increase the rate of breast or any other cancer." (Id., pp. 3-4.)

These materials further explain the testimony offered during the hearings.

## 4. Commission Discussion.

PM<sub>10</sub> Of the public health issues, none has created more controversy-thatthan the potential effects of PM<sub>10</sub> emissions from the project. The purposes of this section are to expand upon the Commission's reasoning in finding that the project causes no significant air quality impacts from PM<sub>10</sub> emissions, as well as to address particular points raised by the Intervenors. We address that particular issue here.

For the purpose of assessing a project related health impact and its significance, it is important to distinguish between, on the one hand, short term, acute, health effects addressed by the 24 hour 50 ug/m<sup>3</sup> standard, and on the other hand, the long term, chronic, health effects addressed by the annual average 30 ug/m<sup>2</sup> standard.

Based upon a reasonable reading of the Intervenors' exhibits and the CARB PM<sub>10</sub> study, the Commission is not convinced that the thrust of the studies—the association of relatively high levels of annual average concentrations (50-110 ug/m<sup>3</sup>) for the studied cities and their higher mortality rates—indicates that there is a scientific basis to expect similar mortality rates in the San Francisco situation where annual PM<sub>10</sub> concentrations are much lower at 30 ug/m<sup>3</sup>. Nor should health effects from lower long term, chronic exposure be escalated to suggest dire health effects from a short term high exposure.

<sup>— 102</sup> Pope is quoted as anying, "I'm getting more convinced as time goes on that it's the long term chronic exposure that's most important in terms of real loss of health and loss of life." Environmental Science & Technology Vol. 29, No. 8 (1995), p. 361. (In the administrative record.)

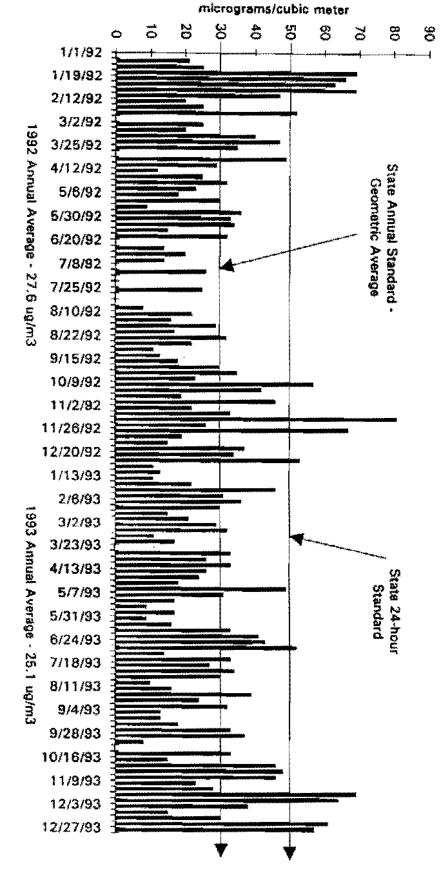
As the Commission has stated in the discussion under AIR QUALITY, PM<sub>10</sub> is a regional problem, and this plant will reduce the problem by displacing dirtier, less efficient power generation in the Bay Area. Although under certain weather conditions the project may increase PM<sub>10</sub> levels locally, such increases would be exceedingly small and would not be expected to occur when weather conditions are conductive to an exceedence of the PM<sub>10</sub> state standard. CARB and BAAQMD are each addressing PM<sub>10</sub> programmatically, on a regional basis, which is appropriate with a regional problem that is cumulative in nature

The Commission believes that (The CARB studies that led to the adoption of the State's PM<sub>10</sub> standards captured the significance of data about short-term and long-term health effects and established two different and appropriate standards to deal with each. <sup>103</sup>—On the basis of the studies presented by the Intervenors, the City of San Francisco has an annual average concentration well below so many other cities used in the study for mortality effects:

The Commission has reduced CARB data (FSA, Vol. I, Air Quality Appen. B) for ambient 24-hour PM<sub>10</sub> levels at the San Francisco monitoring station for 1992 and 1993 to a bar graph in PUBLIC HEALTH FIGURE 1 to give a pictorial history of PM<sub>10</sub> over those two years. <sup>104</sup> Each bar represents the monitored level of PM<sub>10</sub>, based on samplings taken every six days. The missing bars represent days on which data was not obtained. The height of the bar represents the concentration of PM<sub>10</sub>. A reference line is shown at 30 ug/m<sup>3</sup>, which is the state annual average standard. A second reference line is at 50 ug/m<sup>3</sup>, representing the state 24-hour standard.

In reality, California air quality standards encompass the levels recommended in these studies.—California studied PM<sub>10</sub> thoroughly and adopted the nation's most stringent PM<sub>10</sub> regulations in 1982-1983.—California's standards remain at the forefront of health based regulation.

<sup>124</sup> These are the most recent years for which such data formally compiled by CARB are available.



Ambient 24-hour PM10 Levels - San Francisco, 1992 & 1993

The fact This compitation shows that, overall, that the District's and the San Francisco monitoring location meet the state annual average standard of 30 ug/m<sup>3</sup>, is extremely important. Overall, it means that for the long term, chronic health effects of PM to exposure. San Francisco and the District are not exposed to unhealthy levels of PM which would produce decreased breathing capability, increased respiratory illness, or lifetime risk of cancer.

Given the nature of the averaging process, <sup>103</sup> for any day on which there is a PM<sub>10</sub> emission "spike" causing a violation there must be a substantial number of days *below* 30 ug/m<sup>3</sup> in order for the year-long average to be below the annual average standard. On November 14, 1992, for example, there was a one day violation of the 24-hour standard at 81 ug/m<sup>3</sup>. In order for that high concentration to be "averaged out" so that the 30 ug/m<sup>3</sup> standard is met means that, for example, there would have to be 10 days of ambient PM<sub>10</sub> 5 ug/m<sup>3</sup> below the 30 ug/m<sup>3</sup> standard. Alternatively, there could be 5 days at 10 ug/m<sup>3</sup> below the annual standard, or 20 days at 2.5 ug/m<sup>3</sup> below the standard.

The point is that in order tTo achieve the annual average standard, any violation of the state 24 hour standard (or even exceedence above 30 ug/m<sup>3</sup>) requires a substantially greater number of days significantly lower than the annual standard. Thus, every year there are a far greater number of days lower than the annual average standard which was set as a level to protect health in the most sensitive population. The evidence does not establish that The SFEC project will not change those better-than-annual-standard days in any significant substantial way, or that it will create additional exceedences of the standard.

The Commission is aware that the California annual average standard is computed using a geometric mean, instead of an arithmetic mean. Since there is likely greater general public understanding of arithmetic averaging, the Commission will discuss the data in an arithmetic mean context since to do so does not change the probative effect of the data.

Alternatively, there could be 5 days at 10 ng/m²) below the annual standard, or 20 days at 2.5 up/m² below the standard.

The bar graph also shows that there are 14 violations in the two years' data. Dr. Fairley acknowledges that such violations are caused by wood smoke, vehicles, ammonium nitrate and unique weather conditions. (RT 157 158.)

The Intervenors' studies suggest that PM<sub>10</sub> will cause short-term, acute health effects and may aggravate symptoms in those with chronic respiratory disease. However, the evidence also demonstrates that during any of the violations shown on the bar graph if there were a switch to turn "off" the SFEC project and remove all its emissions the health effects would not be noticeably different. Nor, if the project had been switched "off" prior to a violation would turning it "on" during a violation cause a noticeable change or addition to the health effect of the pre-existing violation. In every scenario, the other causes of the ambient winter PM<sub>10</sub> violations such as auto emissions, woodburning, and ammonium nitrate overwhelm the project contribution. Dr. Fairly described the measures he believes appropriate to control the winter violations, namely, no wood burn days enforceable with tickets and possibly limitations on driving. (RT 158.)

As stated before, the measures by Dr. Fairley require lifestyle changes society wide. Social questions such as this as well as the magnitude of the necessary enforcement effort are among the reasons that further PM<sub>10</sub> abatement is under debate. This Commission does not have the legal authority not would it presume to declare that Dr. Fairley's suggestions or any other well intentioned measures should be the law of this State.

The Commission is aware that PM<sub>10</sub> abatement measures like those suggested by Dr. Fairley are under review not only at a District level but also at CARB. All of the "easy" PM<sub>10</sub> abatement has been accomplished already, including requiring industrial stationary sources to convert from distillate fuel to natural gas.

However. On balance, the Commission does believe is persuaded that in-considering how to further about PM<sub>10</sub> the SFEC project represents a positive approach in abating PM<sub>10</sub>. This project will use state-of-the-art technology to reduce emissions, will replace an older, more

polluting powerplant that is less efficient and more costly to update, thus displacing 8 tpy of PM<sub>10</sub> from other PG&E San Francisco facilities and an additional 12 tpy of PM<sub>10</sub> from PG&E's system generation, and will offsets precursor emissions of secondary PM<sub>10</sub>.

As discussed under AIR QUALITY, any contribution to local PM<sub>10</sub> levels is exceedingly small and does not generally coincide with weather conditions that result in PM<sub>10</sub> exceedences. Accordingly, any local impacts are less than significant, and we note in addition that the evidence indicates that even these impacts will be more than subsumed by playground resolding.

Cancer Risk. A health risk acreening analysis was also conducted by BAAQMD for carcinogenic and toxic compound emissions. The carcinogenic compounds emitted from this facility include benzene, formaldehyde, and polycyclic aromatic hydrocarbons (PAHs) including benzo(a)anthracene and benzo(a)pyrene. The total increased cancer risk to the maximally exposed individual was found to be 0.58 in a million fless than one in one million) based upon air dispersion models ISCST2 and COMPLEXI. These models are approved by the CARB (FDOC, p. 11.)

The toxic compounds emitted by the facility include ammonia and toluene. The health risk due to toxic compounds is quantified through a number called the Acute Hazard Index, which was found by the District to be 0.005 for ammonia and toluene. The increased acute hazard index due to toxic compound emissions was less than one. According to the District's Risk Management Policy, the increased risk from the project is deemed to be insignificant. (FDOC, p. 11.) Staff reviewed the risk assessment, and testified that it was performed consistently with the approach developed by the California Air Pollution Control Officers Association. Accordingly, Staff agreed that any increased risk was less than significant. (FSA, pp. 221, 223, 225.)

Per the BAAQMD Risk Management Policy, a project which results in an increased causer risk to the maximally exposed individual of less than one in one million or a project with a total hazard index of 1 0 or less is acceptable in terms of public health impacts. (FDOC: November 1, 1995, App. D. p. D-1.)

While the Revised Report from DPH indicates there is a scientific supposition that environmental contamination may lead to increased cancer rates in the Bayview Hunters Point community, it does not conclude that such is the actually the case. Similarly, other studies (Ex. 22, 23, and 24 offered by Intervenors) do not establish that PM<sub>10</sub> or other emissions from natural gas combustion cause an elevated cancer risk. Rather, scientific analyses performed by the Air District and reviewed by Commission staff indicate dispositively that toxic emissions attributable to the SFEC project will not result in a significantly increased risk to public health. These conclusions are further corroborated and explained by the Applicant's post-hearing submissions, which deal with both environmental contaminants as a causative factor in general, and the chemical speciation of PM<sub>10</sub>, in particular. The Commission therefore concludes the weight of the evidence establishes that the proposed project will not adversely affect public health by causing a significant increase in cancer rates.

In addition, the SFEC project will result in air quality enhancement by resodding two local playgrounds and providing a long-term economic benefit package for the Bayview-Hunters Point community at large. (See, ENVIRONMENTAL JUSTICE section.) This community benefits package is similar to the solution suggested by Dr. Fairley.

Thus, the Commission finds while there will be an impact in the adding of project PM<sub>10</sub> emissions into the local area, that impact is insignificant in terms of public health, whether project specific or cumulative. The scientific evidence supports the conclusion that the project can be operated in a manner which will not endanger the health of any resident of Bayview Hunters Point. The record does not support the unfounded assertions that the project emissions will cause innumerable deaths, cancer, or injury to children. To the extent there is a winter time PM<sub>10</sub> problem, this project will not be the culprit. From a public health perspective, its presence or absence would be unnoticeable.

#### FINDINGS AND CONCLUSIONS

Based upon the persuasive weight of the evidence of record, the Commission reaches the following findings and conclusions:

- 1. Federal and state ambient air quality standards—reflect levels adequate were established at levels intended to protect public health.
- 2. California air quality standards are at least equivalent to, and in many instances more stringent than, federal standards.
- 3. The state standards are intended to protect those members of the population considered to be at highest risk to adverse health effects from exposure to air pollutants.
- 4. No adverse health effects, even in sensitive members of the population, are expected from a pollutant as long as that pollutant's level does not exceed the applicable standard.
- 5. The project meets federal and state air quality standards.
- Compliance with federal and state ambient hir quality standards raises the presumption
  that the project will not create significant direct adverse public health effects from criteria
  pollutants.
- 67. The San Francisco area experiences occasional violations of the state 24-hour PM<sub>10</sub> standard.
- 8. As discussed in the AIR QUALITY section of this Decision, PM<sub>10</sub> levels are a regional problem in the Bay Area and are not characterized by localized "hot spots" of disproportionate concentrations.
- 79. Violations of the 24-hour PM<sub>10</sub> standard during the winter are primarily caused by wood smoke, vehicles emissions, and ammonium nitrate and during unusual unique weather conditions.
- 810. These violations will occur with or without operation of the SFEC project.
- 911. These evidence suggests that these PM<sub>III</sub> violations may be correctable through measures such as driving limitations and "no burn" days unrelated to the SFEC project. The imposition of these measures is beyond the authority of the Prergy Commission.

- 12. As the evidence discussed in the AIR QUALITY section of this Decision indicates, violations of the 24-hour average PM<sub>10</sub> standard and PM<sub>10</sub> reductions are being addressed programmatically by BAAOMD and CARB
- 103. As the evidence discussed in the AIR QUALITY section of this Decision indicates, the SFEC project will displace PM<sub>10</sub> emissions from existing powerplants, as well as and offset some precursors emissions of secondary PM<sub>10</sub>.
- 114. The SFEC project will provide air quality enhancements for PM<sub>10</sub> reductions through the resolding of two local playing fields. The persuasive weight of the evidence indicates that this local reduction more than compensates for any additional PM<sub>10</sub> emissions from the project.
- 125. The evidence does not persuasively establishes that project emissions, alone or in combination, will not result in significant adverse health effects, even to sensitive segments of the population.
- 136. With the implementation of the Air Quality Conditions of Certifications, the project will comply with all laws, ordinances, regulations, and standards intended to protect public health as set forth in APPENDIX: LORS of this Decision.

# CONDITIONS OF CERTIFICATION

Conditions of Certification to ensure the protection of public health are included in the AIR QUALITY, as well as in the HAZARDOUS MATERIALS MANAGEMENT, INDUSTRIAL SAFETY AND FIRE PROTECTION, SOIL AND WATER RESOURCES, TRANSMISSION LINE SAFETY AND NUISANCE, and WASTE MANAGEMENT sections of this Decision.

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#### HAZARDOUS MATERIALS MANAGEMENT

This section reviews whether the delivery, storage, or use of hazardous materials could potentially result in adverse impacts to the public. If potential impacts are identified, feasible mitigation measures must be implemented to reduce impacts to insignificant levels in compliance with applicable law. SFEC and Staff proposed several mitigation measures which are included in the Conditions of Certification. The Intervenors requested additional mitigation that is discussed in the Summary of Evidence below.

## 1. Setting.

The factors relevant to assessing potential public health impacts from a hazardous materials release are: 1) the local meteorology; 2) terrain characteristics; and 3) the proximity of population centers and sensitive receptors.

Meteorology. Meteorological conditions include ambient temperature, wind speed, wind direction, and atmospheric stability thesewhich affect the extent to which accidentally released materials would be mixed or dispersed into the atmosphere. (FSA, Vol. I, pp. 285-286.) Temperatures in San Francisco range from the low 50s to low 70s in the summer and range from the mid-40s to mid-50s in the winter. (AFC, p. 5.1-3.)

Terrain. The site is relatively flat with an elevation ranging from 5 to 15 feet above mean lower low water (MLLW) level. (AFC, p. 3-11.) Emissions of hazardous materials

<sup>108</sup> Staff filed Supplemental Testimony to update its initial analysis. (7/13/95 RT 194: HAZMAT Supp. Test.)

<sup>&</sup>lt;sup>109</sup> Annual wind roses for the meteorological stations near the proposed site show low wind speeds (1.5 meters/sec or below) approximately 17-21 percent of the year. Average wind speeds are 3.5-3.7 meters/sec and blow mostly from the west-southwest.

during accidental releases would be from evaporating pools at ground level so that terrain effects on the estimated concentrations are not significant.<sup>110</sup>

Sensitive Receptors. Sensitive subgroups include the very young, the elderly, and those with existing illnesses. (FSA, Vol. I, p. 287.) The nearest residential area is located about 2,072 ft (622 meters) to the southwest of the site. (See, HAZMAT FIGURE 1.) The nearest sensitive receptor is the Youngblood Coleman Playground at Bayshore and Evans Streets. This playground lies just outside the vulnerability zone<sup>111</sup> (446 meters from the aqueous ammonia storage tank). (Id., p. 288.)

The next closest sensitive receptor is Malcolm X Academy School (former Sir Francis Drake Elementary School) located approximately 0.65 mile (1,045 meters) south of the site. HAZMAT FIGURE 2 shows the locations of most sensitive receptors within a two mile radius of the proposed project. (FSA, Vol. I, p. 288.)

The new natural gas pipeline will extend to the project from either the existing PG&E gas line or the Mojave Pipeline. The new pipeline will run underground approximately 3,200 feet from the existing PG&E gas line connecting at the corner of Phelps and Evans along Mendell to Cargo to the project. If the Mojave Pipeline extension is approved, the new pipeline will run 450 feet to the project from the Hunters Point meter adjacent to the site. (Ibid.)

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While the location of elevated terrain (above release height) is often an important factor at higher altitudes, terrain effects are not included in EPA-approved neutrally buoyant dispersion models for estimating concentrations of pollutants emitted from evaporating pools at ground level. (FSA, Vol. I, p. 286.)

Vulnerable zones are calculated using estimated emission release rates, levels of concern established by the EPA, and worst case meteorological conditions. These zones are then plotted on the site plan and compared to the sensitive receptor locations in the vicinity to determine whether the public is at risk. (AFC, p. 5.6-19.)

# 2. Potential Impacts.

HAZMAT TABLE I lists some of the chemicals that will be used by the project. SFEC and Staff identified additional chemicals during the review process and agreed that the project will use only the following chemicals unless alternatives are approved by the Commission compliance staff: 112

- Armmonium hydroxide (aqueous ammonia, 25% NH<sub>3</sub>), 15,000-gallon bulk storage tank
- Sodium hydroxide (liquid, 50% NaOH), 6,000-gallon bulk storage tank
- Sulfuric acid (liquid, 93% H<sub>2</sub>SO<sub>4</sub>), 12,000-gallon bulk storage tank
- Sodium hypochlorite (liquid, 10% NaOCI), 6,000 gallons
- Ammonium bifluoride (NH,HF,)
- Organic oxygen scavenger COR-TROL 778P: contains Hydroquinone (1,4-benzenediol), 500-gallon storage tank
- Neutralizing amine OPTI-MEEN: contains Morpholine and Cyclohexylamine, one 500gallon storage tank
- Scale inhibitors various including: BETZ 22K which contains a patented calcium phosphate inhibitor as primary ingredient; Nalco 1191 series of phosphate and polyphosphates; and Grace Dearborn 994 series which contains potassium hydroxide, tripotassium phosphate, and an organophosphonic acid; all stored in a 1,000-gallon storage tank
- Mineral insulating oil, 18,000 gallons
- Detergents, various, 350 gallons

Except for natural gas, chemicals will be stored in specially designed storage facilities: bulk chemicals in above ground storage tanks and other chemicals in their delivery containers. The vertical, cylindrical, field-erected storage tanks are stainless steel or carbon steel with a protective interior coating. All hazardous chemical storage areas are surrounded by curbs or dikes sized to hold the entire contents of the largest single storage tank in order to contain leaks or spills. Drains from the chemical storage and feed areas are directed to the neutralization facility for treatment and then to the wastewater collection system for disposal. All drains and vent piping are trapped and isolated to eliminate leaks and vapors; containment areas are drained to either an oily waste collection sump or to the wastewater treatment area. (FSA, Vol. I, p. 282.)

- Laboratory reagents, various, generally less than 5 pounds
- Polymers (anionic, cationic, and nonionic), 100- to 200-gallon storage tanks; 50-pound bags (200 pounds total)
- Hydrated lime (calcium hydroxide, Ca(OH)<sub>2</sub>), 10,000 pounds
- Alum (aluminum sulfate, Al<sub>2</sub>(SO<sub>4</sub>), 14H<sub>2</sub>O), 12,000-gallon storage tank
- Diatomaceous earth (Na,HPO<sub>4</sub>), 3,000 pounds
- Phosphate and metal oxide dispersant Balanced Polymer 54000: contains Sodium hydroxide (NaOH), 1,000-gallon storage tank
- Cyclohexylamine, 500 gallon storage tank
- - Diesel fuel #2, one 100-gallon tank for booster pump and one 200-gallon tank for standby pump
  - Natural gas
  - Betz BP-54000 series polymer (contains sodium hydroxide), 400 gallon container provided by the manufacturer
  - Betz Bio-Trol 88P (granular 1-bromo-3-chloro-5,5-dimethylhydantoin) 3,600 pounds in a container provided by the manufacturer, installed in-line in the water treatment system
  - Betz Slimicide C-94 (aqueous solution of sodium bromide), 400 gallon container provided by the manufacturer
  - Sodium Bisulfite

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# HAZMAT TABLE 1 Chemicals Stored or Used at the Site

Chanles	Use	Approximate Quantity Stored	Form/Type	
Aramonium hydroxide (NH <sub>4</sub> OH)	Selective catalytic reduction	15,000-galion bulk storage tank	Liquid aqueous ammonis, 25% solution	
Sodium bydroxide (NaOH)	Boiler and wastewater treatment pH control	6,000-gallon bulk storage tank	Liquid, 50% NeOH	
Sulfuric scid (H <sub>2</sub> SO <sub>4</sub> )	Circulating water pH control and cooling water treatment to adjust pH	12,000-galion bulk storage tank	Liquid, 93 % H <sub>2</sub> SO <sub>2</sub>	
Sodium hypochlorite (NaOCI)	Biocide for condenser cooling water system and wastewater treatment	6,000 gallous	Liquid, 10% NaOCI	
Organic exygen scavenger and neutralizing amine	Feedwater oxygen acavenger	500-galion storage tank	Liquid	
Scale inhibitors, various	Reduce scale formation in the circulating water system	1,000-gallon storage tank	Liquid	
Mineral insulating	Transformer systems	18,000 gallous	Liquid	
Various detergents	Combustion turbine compressor eleaning	350 gallous (for periodic cleaning)	Liquid	
Laboratory respects	Various	Generally less than 5 pounds	Liquid and granular	
Polymers (anionic, cationic, and nonionic)	Wastewater treatment	100- to 200-gallon storage tanks; 50-pound bags (200 pounds total)	Liquids and powders	
Hydrated lime	Wastewater treatment, solids dewatering	10,006 pounds	Powder, 93 % Ca(OH) <sub>2</sub>	
Alum Al <sub>2</sub> (50 <sub>4</sub> ), • 14H <sub>2</sub> 0	Wastewater treatment, chemical precipitation	12,000-gallon bulk storage tank	Liquid, Al <sub>2</sub> O <sub>3</sub> 8.5%	
Distomaceous earth (Na,HPO.)	Precont solids, dewatering	3,000 pounds	Powder	
Phosphate and metal oxide dispersant	Minimizes iron deposition within the boiler system	1,000-gallon storage tank	Liquid	
OPTI-MEEN: Cyclohexylamine and morpholine	Condensate system corrosion protection	500-gallon storage tank	Liquid	
Diesel Fuel No. 2 Fire pumps		One 100-gallon tank for booster pump One 200-gallon tank for standby pump		

(Source: AFC, Table 5.6-3.)

Chemicals that may cause off-site adverse health effects are considered hazardous materials for purposes of this analysis. <sup>113</sup> Except for aqueous ammonia, sodium hypochlorite, natural gas, and sulfuric acid, the materials listed above pose minimal potential for off-site impacts because they will be transported and stored in solid form and/or small quantities and/or have very low toxicity. <sup>114</sup> (FSA, Vol. I, pp. 294-295.)

The use of aqueous ammonia can result in the formation and release of toxic gases in the event of a spill due to its relatively high vapor pressure and the large amount of aqueous ammonia that will be stored and used on-site. (FSA, Vol. I, p. 295.)

The aqueous mixture of *sodium hypochtorite* poses a minimum risk of off-site impacts in the event of a spill because of its low vapor pressure and low concentration. However, the accidental mixing of sodium hypochlorite with acids could result in toxic gas. (*Ibid.*)

The use of natural gas can result in fires and/or explosion. While the risk of on-site natural gas accidents can be minimized, concern exists about the transfer of natural gas through underground pipelines that are buried beneath streets in the surrounding community. (Ibid.)

The safety of workers on-site is addressed in the section on INDUSTRIAL SAFETY AND FIRE PROTECTION.

Initially, SFEC identified hydrochloric acid (HCl) used to clean HRSGs as a hazardous material that could pose potential off-site health risks; however, HCl has been withdrawn from consideration in this project. (FSA, Vol. I. p. 296.) Further, the scale inhibitors, which prevent formation of mineral coating inside pipes, are restricted to the group of chemicals identified as BETZ 22K, Nalco 1191, and Grace Dearborn 994 series. (Id., p. 280.)

The use of aqueous ammonia instead of the much more hazardous anhydrous ammonia (not diluted with water) is itself a mitigation measure since it is used to control NO, emissions from the boiler stack. (FSA, Vol. I, p. 295.)

<sup>116</sup> Sodium hypochlorite is used in water treatment as a substitute for chlorine gas which is much more toxic; thus, an aqueous solution of sodium hypochlorite is itself a mitigation measure. (FSA, Vol. I, p. 295.)

Although sulfuric acid was not considered to pose a risk of off-site impacts because of its relatively low vapor pressure. Staff conducted a quantitative assessment of the potential for off-site impacts due to concerns raised by the local community. (Id., p. 296.)

The evidence presented by SFEC indicates that the probability of an accidential release occurring during the transport of hazardous materials is extremely low. (SFEC, "Screening Assessment of Hazards of Transport of Hazardous Materials, Testimony of Weatherwax, June, 1995.) However, the Intervenors raised concerns about potential cumulative impacts resulting from accidents involving two or more vehicles carrying hazardous materials or other potential releases during transport.

## 3. Summary of Evidence and Proposed Mitigation.

Aqueous ammonia. Aqueous ammonia is used in the selective catalytic reduction system of the HRSG to control NO<sub>x</sub> emissions. Accidental release of aqueous ammonia could result in the evolution of ammonia gas due to its high vapor pressure under ambient conditions. To reduce risks from accidental releases, on-site storage consists of a 15,000 gallon bulk storage tank surrounded by a bermed containment basin that covers an area of 750 square feet. This is large enough to contain all the ammonia in the storage tank. (FSA, Vol. I, pp. 283, 296; Staff's HAZMAT Supp. Test., p. 2.)

The most likely spill scenario is a release during transfer between the delivery vehicle and storage vessel. Aqueous ammonia will be delivered via tanker truck to an unloading pad adjacent to the storage tank. A sump with a surface area of 750 square feet is located at the back of the pad, next to the storage tank containment basin. The transfer system includes piping with automatic and manual check valves to secure the system in the event of a rupture. <sup>117</sup> In

<sup>117</sup> Seismic safety of the hazardous materials storage tanks and piping systems is addressed in the FACILITY DESIGN section of this Decision. (See, 7/13/95 RT 216-219; FSA, Vol. I, pp. 305-307.)

the worst case scenario, a tank line could rupture and all the ammonia contained in the tank would pool in the sump or bernned area. (FSA, Vol. I, p. 283.)

Automatic alarms are incorporated into the design of the unloading and storage systems to indicate the presence of harmful vapors. A vapor suppression foam system is also incorporated to prevent ammonia vapors from entering the atmosphere and moving off-site. In the event of a release from the truck, piping, or storage tank, this vapor suppression system will spray enough foam to cover the combined delivery/storage area within a few seconds. [18] (Id., p. 284.)

The combined containment areas cover 1500 square feet, which can hold the entire contents of the tank plus the vapor suppression foam sprayed onto the surface of the spill, the neutralizing agent, expected standing rain water, plus a margin of safety. Any material collected within the bermed area will flow to a sump for neutralization and disposal. (*Ibid.*; HAZMAT Supp. Test., p. 3.)

Staff analyzed the effectiveness of SFEC's proposed mitigation measures based on the worst case release scenario, assuming the temperature of released ammonia would be 90° F. 119 Staff further assumed containment in the combined transfer and storage area but no vapor suppression foam. (FSA, Vol. I, pp. 296-297.)

To determine the level of significance of potential exposure, Staff used a value of 75 parts per million (ppm) as recommended by the National Research Council (NRC). Under the NRC short-term public emergency limit (STPEL), exposure to ammonia gas at a concentration of 75 ppm for 30 minutes represents the maximum level of exposure that would not pose a significant risk of adverse effect. (Id., p. 297.)

<sup>&</sup>lt;sup>118</sup> With stabilizer added to the foam, its effectiveness can last for hours in heat and bright sunlight. (FSA, Vol. 1, p. 284.)

<sup>119</sup> FEMA Guidelines suggest that materials in storage vessels exceed ambient temperatures by about 20° F on a sunny day.

The American Industrial Hygiene Association has also developed Emergency Response Planning Guidelines (ERPG) for ammonia. The ERPG-1 level of 25 ppm is intended to protect against any symptoms other than mild transient irritation. The ERPG-2 level of 200 ppm is calculated to protect against irreversible effects and to safeguard an individual's ability to take protective action. Many California agencies use the ERPG-2 level as the Level of Concern (LOC) in determining a vulnerability zone and recommend or require its use in the preparation of a Risk Management and Prevention Plan (RMPP). (Ibid.; 7/13/95 RT 207, 208-209.)

The Intervenors took the position that the appropriate LOC should be ERPG-1, which is 25 ppm. An expert witness for the Intervenors<sup>120</sup> testified that even a concentration of 25 ppm or less is discernable to the public and those who are exposed will need notification in the event of a release. (7/21/95 RT 190, 209-210.) Staff's expert<sup>121</sup> testified that the 75 ppm LOC used by Staff is adequate to protect sensitive individuals including asthmatics from being incapacitated by aqueous ammonia vapors. (7/13/95 RT 211.) Further, Staff's witness indicated that the notification program and "good neighbor" policy included in the Conditions of Certification will ensure full disclosure of potential hazards from ammonia vapors and emergency response plans. (7/13/95 RT 227-228; Condition HAZ-7.)

Using EPA's SCREEN Model, Version 2.0 (EPA 1992), Staff determined that if a spill were to occur on-site within either the delivery area or the tank containment area, concentrations of ammonia at the nearest public receptor (commercial facilities about 210 meters [689 feet] southwest of the ammonia tank), nearest home (654 meters [2145 feet] to the west) and at the nearest school (1103 meters [3619 feet] to the south) would be 127 ppm, 17 ppm, and 7.5 ppm, respectively with standard mitigation. The use of the foam spray system would lower these

<sup>120</sup> Richard Lee, Senior Industrial Hygienist, for the San Francisco Department of Public Health.

Alvin Greenberg, Ph.D., who conducted the analysis and testified for Staff, was cross-examined by the Intervenors. (7/13/95 RT 203 et seq.)

In its HAZMAT Supplemental Testimony, Staff revised its dispersal analysis. The initial analysis was based on a simultaneous failure of both the delivery and storage tank systems which would spill into 1500 square feet of combined containment area; the revised testimony covers failure of one system with a spill covering 750 square feet.

concentrations to 12.7 ppm, 1.1 ppm, and 0.75 ppm, respectively, thus reducing the risk of public harm to insignificance. (HAZMAT Supp. Test., p. 4.)

The foam spray system operates by manually opening the system control valve at the unloading station or in the control room.<sup>123</sup> (FSA, Vol. I, p. 284.) The Intervenors requested a portable foam spray system (consisting of 5-gallon containers with a hose) due to: 1) concern about ammonia leaks from valves or pipes; 2) leaks from a delivery truck away from the transfer and storage areas; or 3) in the event that a major disaster would prevent the San Francisco Fire Department from responding quickly.<sup>124</sup> (7/21/95 RT 188-189, 207-208.) Staff's expert testified that a mobile foam system is unnecessary because it is highly unlikely that a spill of aqueous ammonia would occur elsewhere than in the transfer area. (7/13/95 RT 222-223.)

Although the issue of portable foam sprays was contested, the Intervenors expected the parties to resolve the dispute in the context of developing the RMPP which must be submitted to the Commission and the San Francisco Department of Public Health prior to the introduction of hazardous materials to the site. (7/13/95 RT 220-222; 7/21/95 RT 215.)

a more likely scenario. The initial analysis predicted an airborne concentration of 36 ppm at the nearest residence at 2145 feet; the revised analysis shows the lower results of 17 ppm as stated in the text above. (HAZMAT Supp. Test., p. 3; FSA, Vol. I, p. 299.) Nevertheless, the Intervenors expressed concern regarding exposure to 36 ppm. (7/13/95 RT 211-212.) Staff's witness indicated that while an asthmatic could breathe ammonia vapor at 36 ppm for 30 minutes, this scenario was modeled with standard mitigation and did not include the foam vapor reduction system that would reduce the concentration by 90 percent to 4 ppm, which would be barely noticeable as an odor at the nearest residence. (7/13/95 RT 211, 225-226; FSA, Vol. I, p. 299.)

<sup>123</sup> The Safety Management Plan and the Emergency Response Plan include employee training and procedures for emergency responses in the event of hazardous materials release, including on-site spill containment such as operation of the foam spray system. (FSA, Vol. I, pp. 304-305.)

<sup>&</sup>lt;sup>124</sup> Under ordinary circumstances, the response time of the San Francisco Fire Department's Hazardous Materials Response Team is estimated at 10-15 minutes. The fire stations that serve the site can respond in about one minute, although they may not necessarily be part of a hazardous materials response. (FSA, Vol. I, p. 305.)

<sup>125</sup> Condition HAZ-8 requires SFEC to submit the RMPP for concurrent approval by the Commission and the San Francisco Department of Public Health.

Sodium Hypochlorite. Sodium Hypochlorite will be used for water treatment to control the growth of algae and other microorganisms and to control pH or acidity. The storage, handling, and use of sodium hypochlorite can cause a release of chlorine gas if it is accidentally mixed with acids. SFEC will submit a detailed Safety Management Plan which requires separate storage facilities for incompatible materials to minimize the opportunities for accidental mixing and reduce the risk of potential impacts to insignificant levels. (FSA, Vol. I, p. 301.)

Sulfuric Acid. Sulfuric acid proposed for use at the facility is a 93 percent aqueous solution that is added to cooling water to control scaling. It will be delivered by tanker truck<sup>126</sup> and stored in a 12,000 gallon steel bulk storage tank surrounded by a bermed containment basin large enough to contain all the sulfuric acid in the event of a spill. The process of neutralizing spilled sulfuric acid will employ appropriate safety procedures to prevent violent chemical reactions. However, the vapor pressure of 93 percent aqueous sulfuric acid is very low so the risk of off-site exposure to an on-site spill would be insignificant. (FSA, Vol. I, p. 300.)

Due to public concern, Staff modeled potential dispersion concentrations using a LOC of 0.245 ppm recommended by Cal/EPA to protect even sensitive individuals from respiratory effects such as bronchoconstriction. (*Ibid.*) Results of the modeling show that airborne concentrations at all off-site receptors would be many orders of magnitude less than the LOC. Even at 50 meters from a spill, the airborne concentration of 9.25 x 10<sup>-5</sup> ppm would be 0.00038 (1/2648) of the LOC. Using the proposed Cal/EPA Level 1 value of 0.03 ppm, all off-site receptors - including sensitive individuals - would not experience even small changes in respiratory function. (*Ibid.*)

Staff also reviewed the accident history of sulfuric acid at facilities across the United States. The data indicate that while sulfuric acid is the most widely used and transported hazardous material in the United States, the number of injuries resulting from transportation

There will be 30 deliveries per year by tanker truck. (7/13/95 RT 215-216.)

accidents remains very low. (HAZMAT Supp. Test., p. 4.) Although there were several on-site releases reported, <sup>127</sup> many of those events involved co-release of other substances as in the 1992 Rhone-Poulenc fire in the Bay Area. (FSA, Vol. I, p. 300; 7/13/95 RT 213-214.) To prevent accidental mixing of incompatible materials, SFEC's Safety Management Plan will require physical separation of stored chemicals in separate containment areas at the project site. (AFC, pp. 5.6-17 and 5.6-23.)

Sulfuric acid is not a flammable substance by itself although it is highly reactive and contact with combustible materials may result in ignition. To prevent accidental ignition, Staff proposed a Condition of Certification to prohibit the storage, usage, and transportation of combustible or flammable materials within 100 feet of the sulfuric acid tank. (*Ibid.*)

Natural Gas. Natural gas poses a fire and/or explosion risk as a result of its flammability. While natural gas will be used in significant quantities, it will not be stored on-site. The risk of fire and/or explosion on-site will be reduced to insignificant levels through adherence to applicable law and the implementation of effective safety management practices including: 1) the use of double block and bleed valves for gas shut-off; 2) automated combustion controls; and 3) burner management systems. (FSA, Vol. I, p. 301.)

Start-up procedures will require air purging of fire boxes prior to start-up to prevent the formation of an explosive mixture. SFEC's Safety Management Plan will address the handling and use of natural gas to significantly reduce the potential for equipment failure resulting from improper maintenance or human error. (*Ibid.*)

Transport of natural gas via pipelines creates the potential for gas release due to mechanical failure or external forces. However, the probability of release is extremely low since the pipeline will be constructed in accordance with current standards. (*Id.*, p. 302.)

<sup>127</sup> The data did not differentiate between concentrated sulfuric acid, aqueous sulfuric acid, Oleum, or mixtures of sulfuric acid and other materials. (FSA, Vol. I, p. 300.)

The following safety features will be incorporated into the design and operation of the natural gas pipeline: (1) while the pipeline will be designed and constructed to carry natural gas at a pressure of 400 psig, the normal operating pressure will be limited to 145 psig; (2) but welds will be X-rayed and the pipeline will be tested with water prior to the introduction of natural gas into the line; (3) the pipeline will be surveyed annually for leakage; (4) the pipeline will be marked to prevent rupture by heavy equipment excavating in the area; and (5) valves at the intersection of Evans and Mendell and at the meter will be installed to isolate the line if a leak occurs. (*Ibid.*)

Transport of Hazardous Materials. The Intervenors expressed concern regarding transport of hazardous materials to and from the site. SFEC anticipates that hazardous materials will be delivered by three bulk chemical suppliers with approximate delivery distances of 1.5 to 2 miles. ("Screening Assessment of Hazards of Transport of Hazardous Materials," supra, p. 3.) (See, HAZMAT FIGURE 3.) The total annual probability of a spill is calculated by combining delivery frequency, delivery distance, 128 probability of truck accident per mile traveled, and probability of significant material spillage given such an occurrence. See, HAZMAT TABLE 2 below:

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The distance from the I-280 Third Street offramp to the site is conservatively estimated at two miles.

HAZMAT TABLE 2

Probability of Accidental Spills During Transport

MATERIAL	TRANSPORT RATE (Trips/ year)	DISTANCE (miles/trip)			EXPECTED SPILLS PER YEAR		
		Hwy	Local	Total	Highway	Local	Total
Aqueous ammonia	45	48	2	50	3.3e-05*	1.4e-06	3.5e-05
Sodíum hydroxide	5	18	2	20	1.4e-06	1.6e-07	1.6e-06
Sulfuric Acid	30	18	2	20	8.4e-06	9.3e-07	9.3e-06
Sodíum Hypocholorite	16	18	2	20	4.5e-06	5.0e-07	5.0e-o6

<sup>\*</sup> e = 10-6 (one-in-one million)

(Source: "Screening Assessment of Hazards of Transport of Hazardous Materials," p. 3, Table 2.)

SFEC argued that hazardous transport accidents in the area are virtually non-existent although hazardous materials are regularly transported for hundreds of miles on regional freeways which run along residential areas, including two routes (Hwy 101 and I-280) that pass within a mile of the site. The fact that hazardous materials are regularly transported in and out of Bayview Hunters Point due to industrial activity in the area does not statistically increase the risk of accidents because the number of deliveries to this project will be relatively low. (7/13/95 RT 242-243.) Moreover, SFEC's testimony indicated that the likelihood of two tankers colliding and causing a spill would be one-in-one trillion. (129) (1d., p. 246.) SFEC conceded that no

Regarding a single truck accident, and assuming the worst weather conditions, at only one-and-a-half miles on the surface street from the freeway to the site, there would have to be 1500 to 3000 truck trips over the 30 year life of the project to predict a statistically significant one-in-one million likelihood of an accident. Assuming 45 truck trips per year for aqueous ammonia deliveries, for example, the total over 30 years would be about 1350 trips, fewer trips than the threshold for a one-in-one million chance of an accident occurring. (7/13/95 RT 250-252; HAZMAT Table 2.)

cumulative analysis was done since potential impacts from project-related transport are so minimal that such an analysis would be an unproductive exercise. (Id., p. 242 et seq.)

#### 4. Commission Discussion.

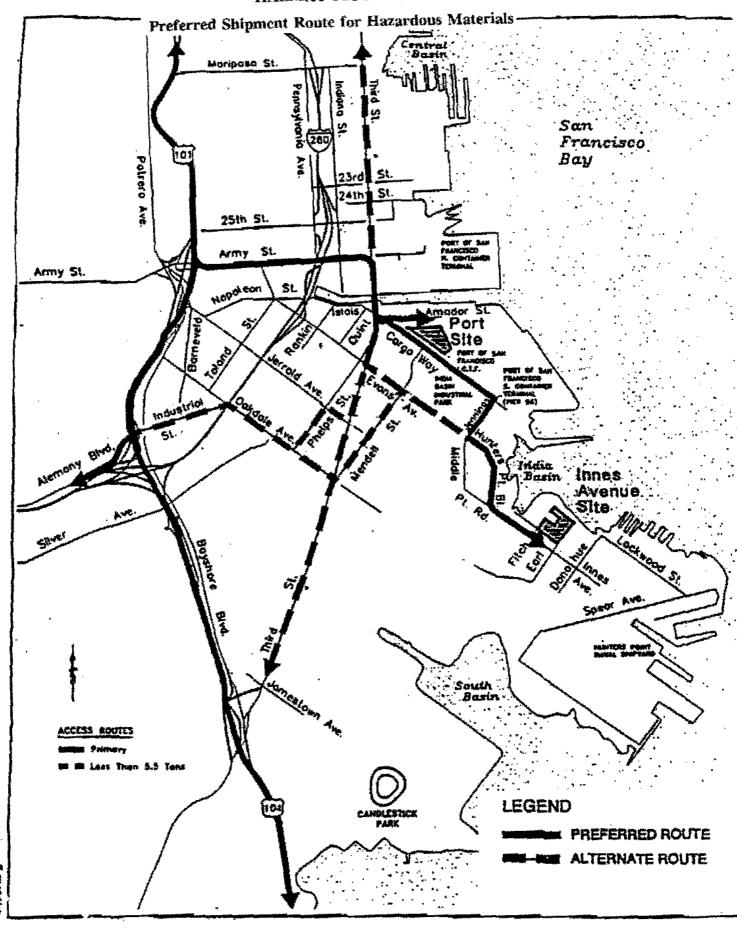
The Commission finds the mitigation measures proposed by Staff and SFEC conform with state-of-the-art management of hazardous materials and will comply with applicable law. The Intervenors' concern regarding the appropriate LOC for modeling dispersion of ammonia vapor was adequately addressed by the evidence that shows that no other county in California uses the ERPG-1 (25 ppm) standard; <sup>130</sup> moreover, the 75 ppm LOC used by Staff is much lower than the ERPG-2 (200 ppm) standard that is typically relied on by other California agencies.

Thus, Staff's modeling assumptions are persuasive inasmuch as use of the conservative 75 ppm LOC results in the potential for only insignificant impacts. 131

As Staff indicated, use of this LOC ensures that the ability of sensitive individuals (including asthmatics) to evacuate or take other precautions will not be impaired in the event of a spill. (7/13/95 RT 210.) Moreover, the "good neighbor" notification policy incorporated into the Conditions of Certification addresses the Intervenors' concern that the community receive information regarding: 1) the identity of vapors that may discernable off-site; and 2) evacuation procedures in the event of a public health emergency. (Condition HAZ-7.)

that would reduce exposure to a 25 ppm level or whether exposure to a concentration level of 25 ppm would be further mitigated to lower exposure levels. Intervenors' witness testified that "[t]here might be some question about the health effects at 25 ppm, but it's clear that 25 ppm is discernable by the public...if...they were exposed to 25 ppm, they definitely would want to know what's going on." (7/21/95 RT 190:5-9.) The witness conceded that a 25 ppm LOC may be characterized as a public warning level because vapors are discernable at that concentration. (Id. at 209:15-19.) Staff indicated that ammonia odor is discernable at 25 ppm but no tearing of the eyes should occur; the odor detection threshold falls within the 5-20 ppm range. (FSA, Vol. I, p. 299.)

Using standard mitigation without the foam spray system, potential exposure at the nearest sensitive receptor will be 10 orders of magnitude less than the 75 ppm LOC; with the foam spray system, exposure is expected to be 100 orders of magnitude less than the 75 ppm LOC.



(Source: SFEC Data Response, Dec., 1994.)

Preferred Shipment Route For Hazardous Materials The Intervenors' request for a portable foam spray system is not supported by the evidence, which indicates that the most likely spill scenario would occur during transfer from the delivery truck to the storage tank. The foam spray system built into the transfer operation is designed to handle any accidental releases such that a portable system appears to be redundant. However, the parties may discuss this issue during the County's RMPP review (see, Condition HAZ-8), and if they agree, the portable system will be incorporated into the project at the request of the San Francisco Department of Public Health.

Regarding the Intervenors' argument that a cumulative impacts analysis is required to determine the likelihood of project-related transport accidents that could result in spills of hazardous materials, the evidence of record establishes that the potential for such accidents is not statistically significant. While the Commission recognizes that the presence of hazardous materials delivery vehicles may be cause for speculative concern, there is no scientific basis to conclude that the project-related vehicles will increase the likelihood of accidents to significant levels.

#### FINDINGS AND CONCLUSIONS

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

- Hazardous materials will be delivered, stored, and handled at the project site; those
  posing a risk to the public include aqueous ammonia, sodium hypochlorite, sulfuric acid,
  and natural gas.
- The major types of hazards associated with the delivery, storage, and handling of the hazardous materials identified in Finding 1 are toxic gas release from accidental spills and/or accidental mixing of incompatible materials, and/or fires/explosions.
- 3. Mitigation measures include diked containment areas surrounding storage facilities and catchment basins between the delivery vehicles and storage vessels; location and design of storage vessels; limitations on the method and frequency of delivery; training of personnel in proper safety and emergency handling of hazardous materials; and the development of a Safety Management Plan to minimize the potential for human error and equipment failure.

- 4. Since the most likely scenario for accidental spills of aqueous ammonia would be during delivery, the design of the unloading and storage systems includes automatic and manual shut-off valves, automatic alarms, and a vapor suppression foam spray system.
- 5. SFEC and the Intervenors may discuss the need for a portable foam spray system in the context of developing the required Risk Management and Prevention Plan.
- 6. The 75 ppm level of concern (LOC) recommended by the National Research Council (NRC) for ammonia vapor dispersion impacts is adequate to protect sensitive individuals including asthmatics from being incapacitated by aqueous ammonia vapors.
- 7. Staff's modeling analysis assumptions for ammonia vapor dispersion impacts based on the 75 ppm LOC establishes that implementation of the mitigation measures described in Findings 3 and 4 will reduce potential exposure at the most sensitive receptor to insignificant levels.
- 8. SFEC will implement a "good neighbor" policy and public notification program to provide information regarding potential hazards from accidental spills and the appropriate response and evacuation plans in the event of a public health emergency; the Intervenors' concern that a 25 ppm LOC for ammonia vapor dispersion be used to trigger a public warning process is addressed by the "good neighbor" policy.
- 9. The state-of-the-art safety features incorporated into the design and operation of the proposed natural gas pipeline will reduce to insignificant levels the likelihood of gas release due to mechanical failure or external forces.
- Since potential impacts from project-related transport of hazardous materials are statistically insignificant and project deliveries will be relatively low, a cumulative impact analysis is not necessary.
- 11. Implementation of the mitigation measures which are incorporated in the Conditions of Certification will ensure that the project does not pose a significant risk of adverse impact to public health and safety due to hazardous materials handling at the site.
- 12. Implementation of the Conditions of Certification will ensure that the project complies with all applicable laws, ordinances, regulations, and standards related to hazardous materials handling as identified in APPENDIX: LORS in this Decision.

#### CONDITIONS OF CERTIFICATION

- HAZ-1 The project owner shall use only the chemicals, in reportable quantities, that are listed below unless alternatives are approved by the California Energy Commission's Compliance Project Manager (CPM).
  - Ammonium hydroxide (aqueous ammonia, 25% NH<sub>3</sub>)
  - Sodium hydroxide (liquid, 50% NaOH)
  - Sulfuric acid (liquid, 93% H<sub>2</sub>SO<sub>4</sub>)
  - Sodium hypochlorite (liquid, 10% NaOCl)
  - Ammonium biffuoride (NH,HF<sub>2</sub>)
  - Organic oxygen scavenger COR-TROL 778P: contains Hydroquinone (1,4-benzenediol)
  - Neutralizing amine OPTI-MEEN: contains Morpholine and Cyclohexylamine
  - Scale inhibitors, various including: BETZ 22K which contains a patented
    calcium phosphate inhibitor as primary ingredient; Nalco 1191 series of
    phosphate and polyphosphates; and Grace Dearborn 994 series which
    contains potassium hydroxide, tripotassium phosphate, and an
    organophosphonic acid.
  - Mineral insulating oil
  - Detergents, various
  - Laboratory reagents, various
  - Polymers (anionic, cationic, and nonionic)
  - Hydrated lime (calcium hydroxide, Ca(OH),)
  - Alum (aluminum sulfate, Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> = 14H<sub>2</sub>O)
  - Diatomaceous earth (Na,HPO,)

- Phosphate and metal oxide dispersant Balanced Polymer 54000: contains Sodium hydroxide (NaOH)
- Cyclohexylamine
- - Diesel fuel #2
  - Natural gas
  - Betz BP-54000 series polymer (contains sodium hydroxide)
  - Betz Bio-Trol 88P (granular 1-bromo-3-chloro-5,5-dimethylhydantoin)
  - Betz Slimicide C-94 (aqueous solution of sodium bromide)
  - Sodium Bisulfite

<u>Verification</u>: The project owner shall submit in the Annual Compliance Report a list of hazardous materials used at the facility in reportable quantities.

HAZ-2 The project owner shall construct a spill containment structure under the delivery vehicle off-loading areas for the aqueous ammonia storage tank, the sulfuric acid storage tank, and the sodium hypochlorite storage tank facility, prior to any delivery of these materials to the project site.

<u>Verification</u>: At least 60 days prior to commencing construction of hazardous materials storage facilities, the project owner shall provide design drawings and specifications for spill containment structures to the CPM for review and approval.

HAZ-3 The project owner shall provide a list of architect and engineering (A & E) firms that will be used to review proposed hazardous materials handling equipment and shall provide documentation of the selection process and criteria used in selecting a firm.

<u>Verification</u>: At least 60 days prior to selection of the A & E firm(s) that will be evaluated to review hazardous material handling equipment, the project owner shall provide a list and documentation of the selection process to the CPM for review and approval.

HAZ-4 The project owner shall identify all operational controls and engineered protective systems critical to the avoidance of potential hazardous materials releases associated with storage, handling, and operational systems on all equipment involving the use of hazardous materials. The project owner shall also provide a complete description, including: (1) controlled parameters (i.e. temperature, pressure); (2) modes of actuation of critical controls; (3) degree of redundancy on critical sensing and control elements; and (4) how the facility can be operated or shut down safely upon failure of controls.

<u>Verification</u>: At least 30 days prior to the A and E firm(s) conducting any design reviews, the project owner shall submit the above specified information to the CPM for review and approval.

HAZ-5 The project owner shall develop a pre-start-up checklist for all critical control and protective safety systems related to equipment involving the use of hazardous materials. The project owner shall also conduct function checks of all critical safety systems.

<u>Verification</u>: At least 60 days prior to delivery of hazardous materials to the facility, the project owner shall provide the pre-start-up checklist to the CPM for review and approval. At least 30 days prior to start-up, the project owner shall submit verification of function checks for all items on the pre-start-up checklist to the CPM for review and approval.

HAZ- 6 The project owner shall provide a detailed Safety Management Plan (SMP), consistent with the guidance provided in API Recommended Practice 750 (API 1990), Guidelines for Technical Management of Chemical Process Safety (AIChE 1989), and OSHA publication 3132 (OSHA 1993), which includes, but is not limited to: (1) a description of how each element of the SMP applies to the proposed facility; (2) an explicit chain of command (by job title on final organization chart) for each specific objective identified in the plan (for example, under "Accountability", list who will be responsible for the preparation of the specific statement of expectations, objectives, and goals by senior management, daily shift logs, and reports of abnormal conditions); (3) a description of how corporate management will ensure proper implementation of the SMP and ensure that production and safety are properly balanced; (4) methods that will be used to motivate employees to accomplish safety objectives; and (5) detailed procedures to address the hazards associated with human error during storage and transfer of hazardous materials.

<u>Verification</u>: At least 60 days prior to delivery of any hazardous materials to the facility, the project owner shall provide the detailed Safety Management Plan to the CPM for review and approval.

The project owner shall provide an Emergency Response Plan (ERP) for on-site spills which includes qualifications and special training for Plant Managers, Supervisors, Operators, and Auxiliary Operators. The ERP shall also address evacuation planning for adjacent commercial and residential facilities and include a multi-lingual public information and notification plan to provide information to the community on standard operating procedures involving hazardous materials, timely information about any spill including the identity and amount of spilled material, the impacts, if any, of the spill, and regular briefings to the community on facility operations. This ERP shall also include provisions to assist any hazardous material vendor and the San Francisco Department of Public Health, if requested, on any off-site spill involving a hazardous material enroute to the facility.

<u>Verification</u>: No later than 120 days prior to the receipt of hazardous materials at the facility, the project owner shall submit a draft ERP to the CPM and the Bayview Hunters Point Clean Environment Coalition for review and comment. A public meeting may be held to discuss the draft ERP contents. No later than 60 days prior to the receipt of hazardous materials at the facility, the project owner shall submit a final ERP to the CPM for review and approval.

HAZ-8 The project owner shall submit a Business Plan and a Risk Management and Prevention Plan (RMPP) as required by California Health and Safety Code section 25500 et seq. to the City and County of San Francisco Department of Public Health. A copy of the RMPP shall also be submitted concurrently to the CPM and the Coalition, which shall have the opportunity to comment on the proposal.

<u>Verification</u>: Not later than 120 days after construction begins, the project owner shall submit a Business Plan to the SF Department of Public Health and a copy to the CPM for approval prior to delivery of any hazardous materials to the facility. Within 180 days after construction begins, the project owner shall submit a RMPP to the San Francisco Department of Public Health and a copy to the CPM for approval prior to delivery of any hazardous materials to the facility.

HAZ- 9 The project owner shall install and test a foam vapor suppression system, which includes a foam stabilizer agent capable of ensuring that the foam cover reduces vapor emissions by at least 90 percent for at least three hours after application, at the aqueous ammonia delivery vehicle off-loading area and the storage tank, prior to any delivery of aqueous ammonia to the project site.

<u>Verification</u>: At least 60 days prior to commencing construction of the aqueous ammonia storage and transfer facilities, the project owner shall provide design drawings and specifications for the foam vapor suppression system to the CPM for review and approval.

HAZ-10 The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM.

<u>Verification</u>: At least 60 days prior to receipt of any hazardous materials on-site, the project owner shall submit copies of the required transportation route limitation to the CPM for review and approval.

The natural gas pipeline shall be designed to meet CPUC General Order 112-D and 58 A standards, or any successor standards, and will be designed to meet Class III service. The pipeline will be designed to withstand seismic stresses and will be surveyed annually for leakage. The project owner shall incorporate the following safety features into the design and operation of the natural gas pipeline:

(1) the pipeline will be designed and constructed to carry natural gas at a pressure of 400 psig: (2) but welds will be x-rayed and the pipeline will be pressure-tested prior to the introduction of natural gas into the line; (3) the pipeline will be surveyed for leakage annually according to the "Periodic Leak Surveys of Gas Transmission and Distribution Facilities" document provided during the certification proceeding; (4) the pipeline will be marked to prevent rupture by heavy equipment excavating in the area; and (5) valves will be installed to isolate the line if a leak occurs.

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

HAZ-12 The project owner shall provide a plan which details procedures that will ensure the safe removal and disposal of any on-site hazardous materials upon closure of the facility. This plan shall also describe measures and resources to ensure that all hazardous materials are safely removed and disposed of properly in the event of an involuntary closure of the facility.

<u>Verification</u>: At least 60 days prior to the delivery of hazardous materials to the facility, the project owner shall provide to the CPM for approval a plan that details procedures and resources to ensure safe removal of all hazardous materials upon any closure of the facility for a period of thirty days or more.

HAZ-13 The project owner shall ensure that no combustible or flammable material is stored, used, or transported within 100 feet of the sulfuric acid tank.

<u>Verification</u>: At least 60 days prior to receipt of sulfuric acid on-site, the project owner shall provide copies of the facility design drawings to the CPM showing the location of the sulfuric

acid storage tank and the location of any tanks, drums, or piping containing any combustible or flammable material and the route by which such materials will be transported through the facility.

HAZ-14 No later than 60 days after the start of operation the project owner shall coordinate with the San Francisco Fire Department for the implementation of Neighborhood Emergency Response Team (NERT) training.

<u>Verification</u>: No later than 60 days after the start of operation the project owner shall submit a letter to the CPM which provides a summary of the project owner's NERT program. The project owner shall include in the letter the NERT coordinator's name and the number of plant personnel that will participate in the training. In the annual compliance report, the project owner shall indicate the level of continuing plant personnel participation in the NERT training program.

#### **CULTURAL RESOURCES**

Within the bounds of this topic, the Commission examines prehistoric and historic archaeologic resources, as well as ethnographic resources. Prehistoric archaeologic resources are those materials relating to prehistoric human occupation of the project area; they may include deposits, sites, structures, artifacts, trails, and other traces of prehistoric human behavior. In California the prehistoric period began over 10,000 years ago and extended through the 18th century when the first Euro-American explorers entered California.

Historic resources are those materials usually associated with Euro-American contact with native peoples, through the exploration and settlement of an area and the beginning of a written historical record. Historic resources may include archaeological deposits, sites, structures, travelled ways, artifacts, documents, or other traces of human activity which are greater than 50 years old. Ethnographic resources are those materials important to the heritage of a particular ethnic or cultural group; they may include traditional resource collecting areas, cemeteries, ceremonial sites, shrines, or ethnic structures.

The examination of potential impacts to cultural resources from the proposed project is required by the Saiting Regulations of this Commission (Cal. Code Regs., tit. 20, §§ 1742, 1742.5) and by the California Environmental Quality Act. (Pub. Resources Code, § 2100 et seq.) Impacts to cultural resources may result either directly or indirectly during the preconstruction or construction phases of the project.

## 1. <u>Setting</u>.

Known archaeological sites in the San Francisco Bay Area date from as far back as 7,000 years ago. Evidence of early peoples includes shell middens (mounds) such as those located at Candlestick Cove, southwest of the project site. However, prehistoric glacial melting has significantly raised water levels since the first human settlements. Thus, archaeological evidence of the earliest human occupation along the California coast may be located out from the modern-

day shoreline and could be buried under more than ten meters of sediment. (AFC, Vol. I, p. 5.3-23.)

Past inhabitants of the project area could include members of the Costanoan tribe, described in 18th century accounts as living south of the project site at the "San Bruno" village located in CULTURAL RESOURCES FIGURE 1. This group was identified by the padres who founded Mission Dolores in 1776. Lands near the project site were part of the pasturage for mission cattle operations and later for those of a Mexican rancho. After the gold rush in 1849, the area continued to supply meat, leather, and tallow to ships as well as to local residents. (FSA, p. 757.)

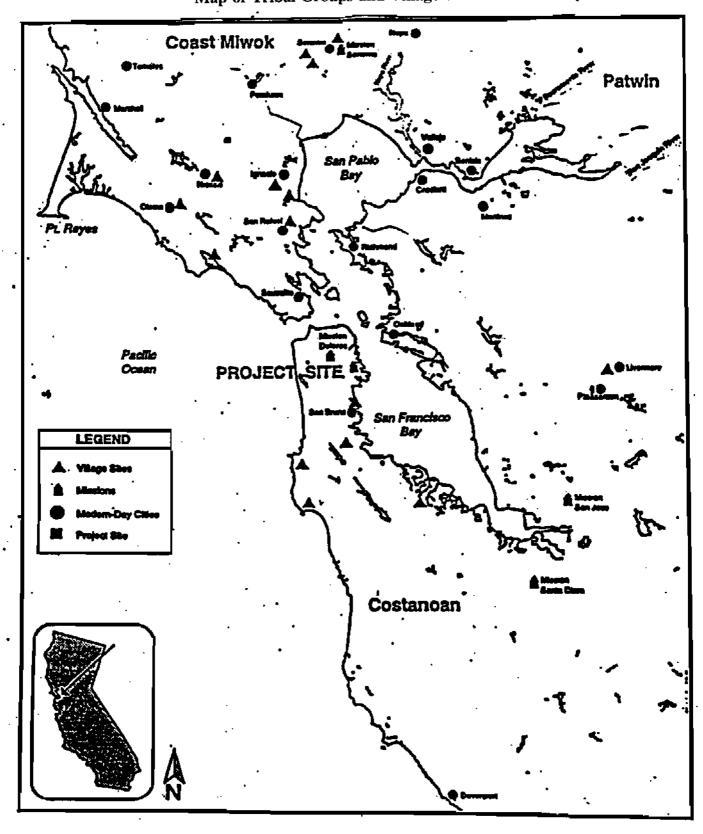
The project area remained unsettled and remote from San Francisco until 1867 when construction of the Long Bridge opened up the Hunters Point area. Ship building and iron works developed, as well as a "butchertown" with cattle yards, slaughterhouses, meat packing houses, leather tanning, glue factories, and fertilizer manufacturing. Many of these facilities were constructed on pilings over tidelands and were largely destroyed in the fires from the 1906 earthquake.

As early as 1867 boatyards also dotted the shore near Hunters Point. The yards constructed sail boats such as Jack London's "Snark", hay scows, and paddlewheel steamboats. The area later became a graveyard for abandoned wooden-hulled ferries and schooners. Evidence of the butchertown and the boatyards is now buried under Bay Mud and fill material, much of it deposited when the project area was filled during the 1960's. (FSA, p. 759.)

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(Source: FSA, Vol. I, p. 755.)

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# 2. Potential Impacts.

There has been considerable previous use and human activity along the original shorelines in the project area. Thus, there is a potential for cultural resource materials to lie within or under the Bay Mud sediments and modern-day fill materials. Boring log data from the geotechnical investigations for the project site shows areas of abundant shells in the sediments below the fill; this could indicate the presence of a prehistoric shell mound and activities by early peoples. In addition, a thick layer in which wood predominates could indicate the presence of historic structures and development.

Where the electric transmission line and the water, wastewater, and natural gas pipelines stay within trenches in existing public streets, no damage to aboveground historic properties is expected to occur. However, the route for these underground facilities will pass through an area which is known to have been occupied by native Californian peoples prior to historic occupation. Thus, excavation and trenching for placement of the underground utilities could encounter significant prehistoric, historic, and/or ethnic resource materials. (FSA, pp. 763-764.)

The proposed route for the steam pipeline also follows existing city streets. SFEC's research of historic records concludes that there is a low to moderate potential for encountering significant subsurface cultural resources during pipeline construction. (AFC, Pipeline Assessment, p. 4-8.)

#### 3. Summary of Evidence and Proposed Mitigation.

The Commission must determine whether the project can be constructed and operated in a manner which is not likely to damage significant cultural resources.

Project construction is not expected to require excavation or ground disturbance in excess of ten feet in depth. Since test borings show the project site is covered by fill material to a depth of twenty to fifty feet below the ground surface, the risk of disturbing cultural resources

is reduced. To mitigate the impacts of any possible encounters, SFEC will retain a professional archaeologist to research pertinent records and to assess the nature and extent of prior fill, depth of ground disturbance, location of undisturbed soils, and any signs of the original ground surface(s) in the vicinity of the facility and the proposed transport routes for gas, water, and electricity associated utility pipelines. The archaeologist will also examine records for site-specific indications of possible prehistoric activity, especially the existence of shell mounds.

This research will form the basis for targeting specific areas of the project and its utility corridors to monitor during trenching and excavation. The information will also be used to create an Archaeological Resource Treatment Plan to guide the treatment of any resources found during construction. In the event that cultural resources are discovered, the archaeological monitor will assess the integrity of the finds and will have authority to halt ground-disturbing activities in the vicinity of the finds if they are judged to merit further scrutiny. If potentially significant materials are discovered, an archaeological team will be retained to further evaluate the finds according to established significance criteria.

Five portions of the project area previously identified as having archaeological sensitivity will be monitored during construction by the qualified archaeologist. These are:

- The portions of Evans Avenue between Phelps and Keith streets, known as "Butchertown"
- Jennings Street, just north of Evans Avenue
- Ingalls Street at Hunters Point Boulevard
- Hunters Point Boulevard from Hudson to Innes Avenue
- Fitch Street, from Innes Avenue to the Innes site

To mitigate any potential damage to cultural resources along the steam transmission pipeline routes, SFEC proposes to base the intensity of monitoring on the likelihood of making finds. Thus, where research shows an area to be less likely to hold significant finds, monitoring will be on a spot basis. In other portions of the route where finding cultural resources is more likely, monitoring will be on a full-time basis. (AFC, Pipeline Assessment, pp. 4-9 to 4-10; FSA, p. 770.)

The Commission sataff concurred with SFEC's presentation of unanswered questions as outlined in the AFC and its proposed mitigation measures. In addition, Staff recommended that the Archaeological Resource Treatment Plan be prepared and approved prior to the start of construction. Staff also recommended that SFEC instruct all workers who operate ground disturbing equipment on how to recognize cultural resources in the field, and provide the workers with a set of procedures for reporting any such resources that may be discovered during project-related ground disturbance. Finally, Staff recommended extending SFEC's proposed construction monitoring/data recovery program to include monitoring by qualified Native Americans. (FSA, Vol. I, p. 771.)

No other party submitted evidence on this topic.

# 4. Commission Discussion.

The Commission has determined believes that SFEC and Staff have each analyzed the potential impacts of the project on cultural resources and have together devised a series of Conditions of Certification which will protect and preserve any significant cultural resources which may be found during construction. These Conditions also ensure that the project will comply with all laws, ordinances, regulations, and standards which pertain to cultural resource protection. The evidence of record submitted by SFEC and Staff establishes that procedures will be followed during project construction which will both avoid and prevent significant adverse impacts to valuable cultural resources.

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### FINDINGS AND CONCLUSIONS

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

- 1. There is potential for cultural resource materials to lie within or under the Bay Mud sediments and modern-day fill materials associated with the project area.
- 2. Excavation and trenching for placement of the underground utilities could encounter significant prehistoric, historic, and/or ethnic resource materials.
- 3. There is a low to moderate potential for significant subsurface cultural resources to be encountered during steam pipeline construction.
- 4. Mitigation measures required within by Conditions of Certification ensure that trenching and excavation activities in sensitive areas will be monitored and that, if encountered, cultural resources will be properly cared for.
- 5. The project will likely to be constructed and operated in accordance with all applicable laws, ordinances, regulations, and standards identified in APPENDIX: LORS of this Decision pertaining to project impacts on cultural resources.
- 6. The mitigation measures set forth in the Conditions of Certification below are adequate to reasonably ensure that construction and operation of the project are will not likely to result in significant adverse impacts on cultural resources—if the proposed mitigation measures and the Conditions of Certification set forth below are followed.

#### CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) on the project, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the following information: the name, telephone number, resume, and indication of availability for its designated cultural resources specialist.

<u>Protocol</u>: The resume shall include the qualifications of the designated specialist to demonstrate that the following minimum qualifications are met: a graduate degree in archaeology, anthropology, or cultural resources management; at least

three years of cultural resources field experience in California; and at least one year's experience leading cultural resource field surveys, cultural resource recovery operations, and cultural resource analyses.

The CPM will review the qualifications of, and must approve in writing, the project owner's designated cultural resources specialist prior to the start of construction on the project.

After CPM approval, the designated specialist shall be available to prepare the Archaeological Resources Treatment Plan (Plan) described in Condition of Certification CUL-2, to develop the employee cultural resources awareness training program described in Condition CUL-3, and to implement (as needed) the Archaeological Resources Treatment-Plan.

<u>Verification</u>: At least 90 days prior to the start of construction of the project, the project owner shall submit to the CPM for review and written approval the name, resume, telephone number, and indication of availability for the project's designated cultural resources specialist. The CPM shall approve or disapprove of the proposed cultural resources specialist within 15 days of receipt of the submittal.

CUL-2 Prior to the start of construction of the project, the project owner's designated cultural resources specialist shall prepare an Archaeological Resources Treatment Plan that includes research questions that may be answered. The Plan will serve as a guideline for the evaluation and treatment of archaeological resources that may be found or impacted during construction and shall incorporate or reference the measures included in Conditions of Certification CUL-4 through CUL-9.

<u>Verification</u>: At least 60 days prior to the start of construction of the project, the project owner shall submit to the CPM-and to the Coalition for review and written approval a copy of the Archaeological-Resources Treatment Plan. The CPM shall approve or disapprove the Plan within 15 days of receipt of the submittal. The project owner shall also provide the Coalition with a copy of the Plan at the time it submits the Plan to the CPM.

CUL-3 Prior to the start of construction of the project, and as needed for new employees during ground disturbing activities, the project owner shall provide instruction to all workers who operate ground disturbing equipment on how to recognize cultural resources in the field and shall provide the workers with a set of procedures for reporting any such resources that may be discovered during project-related ground disturbance.

<u>Verification</u>: At least 60 days prior to the start of construction of the project, the project owner shall present to the CPM for review, comment and written approval, a description of the

instruction to be provided to project construction workers and the set of procedures the workers are to follow. The CPM shall approve or disapprove the employee training program and/or set of procedures within 15 days of receipt of the submittal. The project owner shall provide documentation to the CPM that the instruction and set of procedures have been provided to the workers who operate ground disturbing equipment.

CUL-4 The project owner will have the designated cultural resources specialist available to monitor project-related construction activities; lead and coordinate all cultural resource mitigation efforts; collect all pertinent data; note and map all cultural resource materials encountered; and recover all significant and diagnostic cultural resource materials for analysis using the following protocol:

<u>Protocol</u>: The cultural resources monitoring and mitigation measures will include the following elements:

- a. Prior to ground-disturbing activities, the designated cultural resource specialist is to assemble for review all geotechnical reports, well logs, coring logs, (e.g., hazardous material coring test logs), and other pertinent records. The specialist shall assess these logs for evidence indicating the nature and extent of prior fill, depth of previous ground disturbance, location of undisturbed soils, and any signs of original ground surface(s) (organic or "A" Horizon sediments) in the vicinity of the site of the power generation facility and the proposed transmission routes for gas, water, waste water, steam, and electricity.
- b. The designated specialist is to thoroughly check the core logs for any and all indications of prehistoric activity, in particular, records of shell traces or concentrations that may signal the existence of shellmound deposits. If potential cultural deposits are indicated, the logs are to be evaluated for all evidence pertaining to the integrity of the deposits. Such pre-field core log assessments provide a preliminary understanding of stratigraphy in the project vicinity and an indication of which excavations, borings, or sections of trenches are likely to disturb primary soil deposits.
- c. The designated cultural resources specialist shall monitor excavation, trenching, and other deep subsurface disturbances, such as boring or augering, in those portions of the project construction areas in which the pre-field core log assessment reveals evidence of primary soils and/or potential prehistoric cultural deposits. The designated specialist shall monitor ground-disturbing activities where insufficient core log documentation exists to indicate whether primary soils are present. The designated specialist shall prepare a stratigraphy map depicting the strata within the trench for the gas, water, steam, and electricity lines.

- d. Those portions of the steam pipeline route identified in the supplement to the AFC as having potential historic and/or ethnic resource sensitivity are to be monitored during construction by the designated cultural resource specialist. The five areas of concern include:
  - Those portions of Evans Avenue between Phelps and Keith, known as "Butchertown"
  - Jennings Street, just north of Evans Avenue
  - Ingalls Street at Hunters Point Boulevard
  - Hunters Point Boulevard from Hudson to Innes Avenue
  - Fitch Street, from Innes Avenue to the Innes site
- e. The following monitoring and mitigation measures are for those portions of the transmission routes which may occur in non-fill soils:
  - Monitoring for historic resources should take place along 7th Street, between Jessie and Mariposa streets. Spot monitoring of the pipeline route shall be performed by an archaeologist during construction, with full-time monitoring from Mission Street to the termination and in the vicinity of Folsom and 7th streets;
  - Monitoring for historic resources shall take place from 16th to 22nd streets, between Pennsylvania and Tennessee streets. Fulltime monitoring shall occur between 16th and 20th streets because of the presence of early maritime businesses and residences in this section of the pipeline corridor. Intermittent monitoring, at the discretion of the archaeologist, is recommended between 20th and 22nd streets;
  - Monitoring for historic resources shall take place along 22nd Street to Army Street. Full-time monitoring shall occur on Indiana Street, between 22nd and 25th streets at the putative location of a former powder magazine and wharf; full-time monitoring shall also occur at Tennessee and 25th streets, the possible location of a wharf connecting the powder magazine to another structure at Illinois and 25th streets. Intermittent monitoring is recommended, at the discretion of the archaeologist, on Pennsylvania, Indiana, and Tennessee streets during construction;

- Monitoring for historic resources shall take place in the Islais
  Creek Area. Full-time monitoring shall occur between Mississippi
  and Pennsylvania streets due to the potential for turn-of-the-century
  structures. Spot monitoring is recommended, at the discretion of
  the archaeologist, along the remaining portions of the route with
  special emphasis on the former creek and marsh area due to the
  possibility of buried boats;
- No monitoring is recommended for prehistoric cultural resources.
- f. If additional monitoring of project construction activities is deemed necessary, the designated cultural resources specialist will determine the areas where monitoring is needed, the level of monitoring needed, and a schedule for when the monitor is to be present. If the likelihood of encountering cultural resources is slight, monitoring can be discontinued in that locality;
- g. The designated cultural resources specialist shall have the authority to halt or redirect construction at any time necessary to protect known or previously unknown cultural resources and their locational context. The halting or redirection of construction shall remain in effect until the designated cultural resources specialist has met with the project owner's construction managers to determine how the resources will be protected if construction resumes, and how the mitigation measures will be implemented for recovery of cultural materials;
  - If cultural resources materials are encountered during construction activities, work in the immediate vicinity of the find shall be halted until the designated cultural resources specialist can determine the significance and sensitivity of the find. The designated resource specialist shall act in accordance with the following procedures:
  - The project owner, or its designated representative, shall inform the CPM within one working day of the discovery of any potentially significant cultural resources and discuss the specific measure(s) proposed to mitigate potential impacts to these resources.
  - The designated cultural resources specialist, representatives of the project owner, and the CPM shall meet within 5 working days of the notification of the CPM, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented.

- All necessary and required data recovery and mitigation shall be completed within 10 days after discovery of the previously unknown cultural resources. If additional time is needed to complete cultural resource mitigation activities, the designated specialist and the project owner shall meet with the CPM to discuss changes to the mitigation period.
- h. All significant or diagnostic cultural resources will be collected for further analysis; other (less than significant) cultural resources will be noted. All cultural materials found shall be mapped and all recovered cultural resource materials shall be inventoried, evaluated, and removed for analysis and delivery for curation in the retrievable storage collection in a public repository or museum which meets U.S. Secretary of Interior standards for the curation of cultural resources;
- The CPM shall have unrestricted access to and open communication with the designated cultural resource specialist(s) at any time during project construction.

<u>Verification</u>: Prior to the start of construction of the project, the project owner shall notify the CPM in writing that the designated cultural resources specialist is available and prepared to implement any monitoring and mitigation measures necessary to minimize potential impacts to cultural resources, as described in the <u>Archaeological Resource Treatment Plan</u>.

CUL-5 The project owner will have a designated Native American observer available to monitor construction activities at the project site (if needed). The designated cultural resources specialist will lead and coordinate monitoring efforts by the Native American observer.

<u>Protocol</u>: In any areas determined by local Native American representatives to be sensitive, the project owner will arrange to have a Native American observer present during project construction activities.

The project owner will select the designated Native American observer from the county referral list provided by the Native American Heritage Commission (NAHC), or will solicit the approval of the NAHC and local tribal representatives if the selected observer is not on the list.

The project owner will provide the CPM and the designated cultural resources specialist with the name and telephone number of the Native American observer at least 30 days prior to the start of any ground disturbance and construction activities.

The designated Native American observer will be on-site to monitor site preparation and construction activities within 250 feet of any site of Native American concern.

If additional Native American monitoring of project construction activities is deemed necessary, the designated cultural resources specialist will determine the areas where Native American monitoring is needed and establish a schedule for the monitor to be present. If the likelihood of encountering Native American resources is slight, monitoring can be discontinued at that location, at the discretion of the designated cultural resources specialist.

<u>Verification</u>: Not later than 30 days before construction begins, the project owner will provide the CPM and the designated cultural resources specialist with the name and telephone number of the designated Native American observer(s).

CUL-6 The project owner shall ensure the recovery, preparation for analysis, analysis and delivery for curation of all significant cultural resource materials and data encountered and collected during data recovery and mitigation activities at the project site. The analysis of recovered cultural resource materials and data will be conducted by the designated cultural resources specialist.

<u>Protocol</u>: All cultural materials found shall be mapped and all significant cultural resources shall be removed for analysis and delivery for curation into retrievable storage in a public repository or museum.

<u>Verification</u>: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the university(ies), research center(s), museum(s), or other appropriate research specialists which will ensure the recovery, preparation for analysis, analysis, and delivery for curation of cultural resource materials collected during data recovery and mitigation for the project. The project owner shall keep these files available for inspection by the CPM for a period of 2 years.

CUL-7 The project owner shall ensure preparation of a preliminary cultural resources report by the designated cultural resources specialist if significant cultural resources are found. The project owner shall submit the preliminary report to the CPM for review, comment, and approval within 90 days following completion of the data recovery and site mitigation work.

<u>Protocol</u>: The preliminary report shall include (but not be limited to) preliminary information on the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; possible results and findings of any analysis to be

conducted on recovered cultural resource materials and data; proposed research questions which may be answered or raised by the data from the project; and an estimate of the time needed to complete the analysis of recovered cultural materials and prepare a final report.

<u>Verification</u>: The project owner shall submit a copy of the preliminary cultural resources report to the CPM for review, comment, and approval within 90 days following completion of the data recovery and site mitigation work by the designated cultural resources specialist for the project.

CUL-8 The project owner shall ensure preparation of a final cultural resources report by the designated cultural resources specialist if significant cultural resources are found. The project owner shall submit the final report to the CPM for review, comment, and approval within 90 days following completion of the analysis of the recovered cultural materials and related information.

<u>Protocol</u>: The final report shall include, but not be limited to, the survey report(s), methodology, and recommendations; site records and maps; description and inventory list of recovered cultural materials; determinations of sensitivity and significance; data recovery and other mitigation activities; results and findings of any special analyses conducted on recovered cultural resource materials and data; and research questions answered or raised by the data from the project.

<u>Verification</u>: The project owner shall submit a copy of the final cultural resources report to the CPM for review and approval within 90 days following completion of the analysis of the recovered cultural materials and related documentation.

CUL-9 The project owner shall submit an original or an original-quality copy of any CPM-approved final cultural resources report to the appropriate regional archaeological information center(s), the repository receiving any recovered materials for curation, and shall also provide one original-quality copy of the final report to the CPM.

<u>Protocol</u>: The report(s) sent to the regional information center(s) shall include the following (as applicable to the report): clean and reproducible original copies of all text; originals of any topographic maps showing site and resource locations; original or clear copies of drawings of significant cultural resource materials found during surveys, data recovery, or site mitigation; and photographs (including a set of negatives, if possible) of significant cultural resource materials found and evaluated during the project.

<u>Verification</u>: The project owner shall maintain in its compliance files, copies of all documentation associated with the filing of any approved final cultural resources report and original-quality supporting documentation for any cultural resources that were found and evaluated during project construction.

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#### PALEONTOLOGIC RESOURCES

Paleontology is the systematic study of early life on Earth. It includes the study of fossilized evidence of prehistoric plants or animals preserved in soil or rock. Fossils are scientifically important because they can be used to document the evolution of particular groups of organisms and to understand geologic processes and trends of life over time. Fossils can also be used to date the rocks in which they are found.

The Commission's analysis: 1) identifies potential project impacts to paleontologic resources; 2) reviews the proposed mitigation measures; and 3) determines whether implementation of the mitigation measures will ensure that the project complies with applicable laws, ordinances, regulations, and standards intended to protect paleontologic resources.

#### 1. Setting.

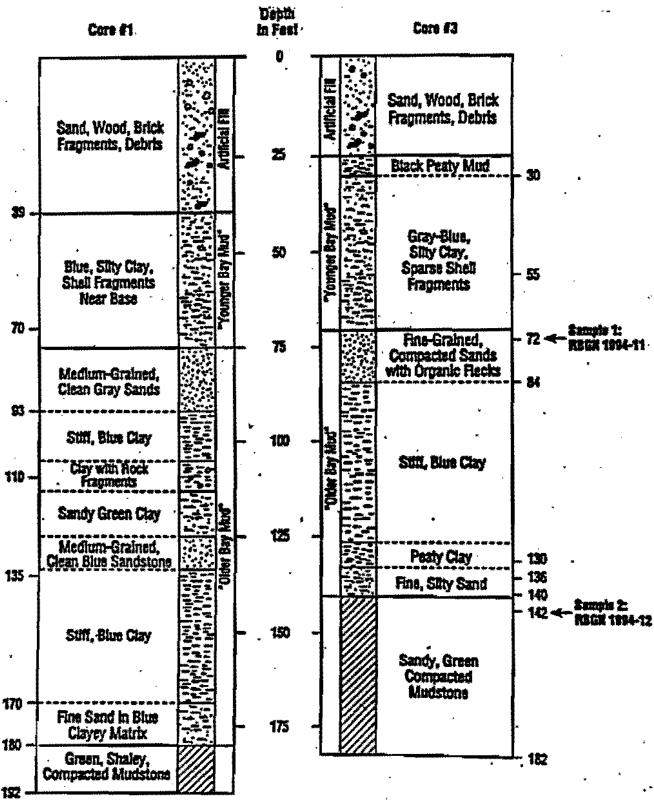
The presence in the San Francisco Bay Area of weathered hills, valleys with flowing streams, and coastal estuaries and bays indicates the potential for the presence of paleontologic resources. Fossils can be produced in sedimentary deposits created by geologic and tectonic earth movement and by the various surface erosional processes. A wide variety of paleontologic resources have been found in the Bay Area.

On the San Francisco Peninsula, the bedrock of the Franciscan Complex may be as thick as 10,000 feet in some places, dating back to the Cretaceous Age (65 to 144 million years ago). Overlying this bedrock are sedimentary layers of Bay Mud, stream deposits and recent alluvium, sand, and surface fill. In the project area the combined thickness of these sedimentary layers may be as much as 225 feet. Generally, the depositional sequence of the sediments throughout the Bay Area is similar, although the component deposits may lie at varying depths below the surface depending upon movement in the underlying rock formations. (FSA, Vol. I, p. 787.) Composite columns from core samples taken at the project site are shown in PALEOLOGICAL PALEONTOLOGICAL RESOURCES TABLE 1.

#### PALEONTOLOGICAL RESOURCES TABLE I

Idealized, Composite Columns from Core Samples Taken at the Project Site

(Source: AFC, Table 5.3-3.)



The term "idealized" means that the table shows the predominant features of the core samples without including all minor details.

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# 2. Potential Impacts.

The project site is located entirely on artificial fill and except for construction of support pilings, project impacts to adjacent or underlying fossiliferous strata is unlikely. Such strata include Franciscan Complex, Bay Mud, Colma Formation, and undifferentiated Pleistocene/Holocene sediments. The Franciscan bedrock which underlies the project is characterized in the AFC as having low paleontologic sensitivity. (AFC, p. 5.3-19.) While this formation has produced fossil specimens, the depth to bedrock beneath the project site is so great that it is unlikely to be affected by construction unless there is a need for large-scale excavation to secure capable soils for project foundations. (FSA, Vol. I, p. 790.)

# 3. Summary of the Evidence and Proposed Mitigation.

The Commission examined the issue of whether the project is likely to impact paleontological resources and, if so, whether such impacts can be mitigated to an insignificant level.

SFEC stated in the AFC that the project is not expected to require excavation or ground disturbance in excess of ten feet in depth. Geotechnical reports and borings contained in the record demonstrate that the project site is covered by fill material that extends to a depth of twenty to fifty feet below the ground surface of the proposed project site. Thus, paleontological resources would not likely be encountered during excavation. However, if project construction were to require large scale deep testing or excavation, then SFEC would employ a qualified paleontologist to identify and salvage any fossil remains. (AFC, Vol. I, p. 5.3-19.)

The routes of the electric transmission line, and well as the water, wastewater, and natural gas pipelines follow existing paved roadways where no surface evidence of fossil materials was observed during pre-project evaluations. Along these routes the depth to the underlying Bay Muds, the Colma Formation, or to the non-serpentine Franciscan Complex is

unknown so the potential for impacts cannot be evaluated until the ground is opened for trenching. (Ibid.)

To mitigate any impacts during transmission line construction in the event that bedrock or Pleistocene/Quarternary deposits are exposed during trenching, SFEC will employ a paleontologist to monitor the excavation. This individual will also conduct limited testing for microvertibrate fossils by taking bulk samples for off-site analysis. If existing utility easements are used for feeder services to the facility, SFEC believes that no further paleontologic resource mitigation will be necessary. (Ibid.)

Commission sataff concurred with the contingency mitigation measures proposed by SFEC and recommended adding additional measures to include recovery, analysis, identification, and curation of any fossil materials which may be encountered during project construction. (FSA, p. 795.)

No other party testified on this topic.

# 4. <u>Commission Discussion</u>:

The Commission has reviewed in detail the several analyses of potential project impacts to paleontological resources as well as the respective mitigation recommendations of SFEC and Commission-sStaff. These uncontroverted submittals support the determination that by utilizing the mitigation recommendations of both the Staff and SFEC, the project and its related facilities can be constructed and operated without imposing a significant impact upon paleontological resources. (Ibid.)

The Commission is furthermore convinced that the project can be constructed and operated in compliance with all laws, ordinances, regulations, and standards which apply to paleontological resources.

#### FINDINGS AND CONCLUSIONS

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

- 1. The project will be constructed primarily on artificial fill and Bay Mud which overlay bedrock of the Franciscan Complex.
- 2. Paleontologic resources would most likely be found in the bedrock underlying the project site.
- 3. No large scale project-related excavations are expected to reach bedrock formations containing paleontologic resources.
- 4. The evidence of record indicates that the Franciscan complex has relatively low overall sensitivity for paleontologic resources.
- 5. The project is likely to be constructed and operated in accordance with all applicable laws, ordinances, regulations, and standards identified in APPENDIX: LORS of this Decision pertaining to project impacts on paleontologic resources.
- 6. The mitigation measures set forth in the Conditions of Certification below are adequate to reasonably ensure that construction and operation of the project are not likely to result in significant adverse impacts on paleontologic resources.

#### CONDITIONS OF CERTIFICATION

PAL-1 Prior to the start of construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) office the project, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the following information: the name, telephone number, resume, and indication of availability for its designated paleontologic resources specialist.

<u>Protocol</u>: The resume shall include the qualifications of the designated paleontologic resource specialist to demonstrate that the following minimum qualifications are met: a graduate degree in geology or paleontology; at least three years of paleontologic field experience in California; and at least one year's

experience leading paleontologic resource field surveys, fossil recovery operations, preparation, and analyses.

The CPM will review the qualifications of, and must approve in writing, the project owner's designated paleontologic resources specialist prior to the start of construction on the project. After CPM approval, the paleontologic specialist shall be available to prepare the monitoring and mitigation plan described below. The designated specialist shall also be available to prepare the pre-construction employee awareness training program, and provide monitoring and mitigation, as needed in sensitive resource areas, during construction activities associated with all aspects of the project.

<u>Verification</u>: At least 90 days prior to the start of construction on the project, the project owner shall submit to the CPM for review and written approval, the name, resume, telephone number, and indication of availability for its designated paleontologic resources specialist. The CPM shall approve or disapprove of the proposed paleontologic resources specialist within 15 days of receipt of the submittal.

PAL-2 Prior to the start of construction of the project, the project owner and the designated paleontologic resource specialist shall instruct all workers who operate ground disturbing equipment on how to recognize paleontologic resources in the field and shall provide the workers with a set of procedures for reporting any such resources that may be discovered during project-related ground disturbance.

<u>Verification</u>: At least 60 days prior to the start of construction enor the project, the project owner shall submit to the CPM for review, comment, and written approval, a description of the instruction to be provided to project construction workers and the set of procedures the workers are to follow. The CPM shall approve or disapprove of the employee training plan and/or set of procedures within 15 days of receipt of the submittal. The project owner shall provide documentation to the CPM that the awareness training and set of procedures have been provided to the workers who operate ground disturbing equipment.

PAL-3 Prior to the start of construction, the designated paleontologic resources specialist shall prepare to implement, as needed during construction, the following monitoring and mitigation measures to minimize potential impacts to paleontologic resources.

<u>Protocol</u>: The monitoring and mitigation measures include the following elements:

a. Where monitoring of project construction activities is deemed necessary by the designated paleontologic specialist, the specialist will determine the

areas where monitoring is needed and establish a schedule for the monitor to be present. If the likelihood of encountering fossil resources is slight, monitoring will be discontinued in that locality;

- b. The following mitigation measures apply to those portions of the transmission line and pipeline routes which may occur in non-fill soils:
  - If undisturbed bedrock or Pleistocene/Quaternary surficial deposits are exposed during excavation and trenching, the designated paleontologist is to be available to monitor excavation;
  - If bedrock is exposed during excavation, the construction area is to be spot-checked by the designated paleontologist. The relative low sensitivity of the bedrock formation suggests that, overall, a total of several hours of monitoring in these portions of the route is probably sufficient;
  - If Pleistocene/Quaternary surficial deposits are exposed during excavation, then the ongoing trenching activities are to be monitored by the designated paleontologist at least 50 percent of the time;
  - The designated paleontologic resource specialist is to also implement limited testing for micro-vertebrate fossil materials by obtaining bulk sediment samples for off-site reduction (using wet screening techniques) and subsequent laboratory analysis; and
  - If existing utility trenches are used for any feeder services to the San Francisco Energy facility, then no further paleontologic resource mitigation may be necessary, at the discretion of the designated paleontologic resources specialist.
- c. The designated paleontologic resources specialist shall have the authority to halt or redirect construction at any time necessary to protect known or previously unknown paleontologic resources and their locational context. The halting or redirection of construction shall remain in effect until the designated paleontologic resources specialist has met with the project owner's construction managers to determine: 1) how the resources will be protected if construction resumes; and 2) how the mitigation measures will be implemented for recovery of fossil materials;
- d. If fossil resources are encountered during construction activities, work in the immediate vicinity of the find shall be halted until the designated paleontologic resources specialist can determine the significance and

sensitivity of the find. The designated paleontologic specialist shall act in accordance with the following procedures:

The project owner, or its designated representative, shall inform the CPM within one working day of the discovery of any potentially significant paleontologic resources and discuss the specific measure(s) proposed to mitigate potential impacts to these resources. The designated paleontologic resources specialist, representatives of the project owner, and the CPM shall meet within 5 working days of the notification of the CPM, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented. All necessary and required data recovery and mitigation shall be completed within 10 days after discovery of the previously unknown paleontologic resources:

- e. All vertebrate fossil remains will be collected and any invertebrate fossil remains will be sampled. All fossil materials found shall be mapped and all significant fossil materials shall be prepared, identified, and removed for analysis and curation in the retrievable storage collection in a public repository or museum which meets Society of Vertebrate Paleontology (SVP) requirements for the curation of paleontologic resources;
- f. The CPM and Staff shall have unrestricted access to and open communication with the designated paleontologic resources specialist(s) at any time:
- g. The designated paleontologic resources specialist will complete the necessary analysis of significant fossil resource materials found during data recovery and mitigation activities for the project;
- h. The designated paleontologic resources specialist shall prepare a draft report summarizing the initial findings and outlining a time schedule for completion of the necessary analysis of significant fossil materials found during mitigation activities for the project;
- i. The designated paleontologic resources specialist will submit to the CPM, for review and approval, a final paleontologic resources report if significant fossil resources are found; and
- j. The designated paleontologic resources specialist will ensure that original and/or original-quality copies of the final paleontologic resources report is filed with the appropriate museums, paleontologic information repository(ies), and CPM.

<u>Verification</u>: At least 60 days prior to the start of construction emoff the project, the project owner shall confirm that the designated paleontologic resources specialist is prepared to implement monitoring and mitigation measures for paleontologic resources, as described in Condition PAL-3.

PAL-4 In the monthly Compliance Report, the project owner shall provide the CPM with a summary of the progress or status of the paleontologic resources monitoring and/or mitigation work being conducted for the project. These progress or status summaries shall be prepared by the designated paleontologic resources specialist.

<u>Verification</u>: Paleontologic resources monitoring and/or mitigation progress or status summaries shall be provided to the CPM in the monthly Compliance Report.

PAL-5 The project owner shall ensure the recovery, preparation for analysis, and analysis of all collected significant paleontologic resources materials encountered during data recovery and mitigation activities related to the San Francisco Energy Company project.

<u>Verification</u>: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research specialists which will ensure the necessary recovery, preparation for analysis, and analysis of paleontologic resources materials collected during data recovery and mitigation for the project. The project owner shall keep these files available for periodic audit by the CPM.

PAL-6 The project owner shall ensure preparation of a preliminary paleontologic resources report by the designated paleontologic resources specialist if significant fossil resources are found. The project owner shall submit the preliminary report to the CPM for review, comment, and approval within 90 days following completion of the data recovery and site mitigation work.

The preliminary report shall include (but not be limited to): preliminary information on the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; possible results and findings of any analysis to be conducted on recovered paleontologic resources materials and data; proposed research questions which may be answered or raised by the data from the project; and, an estimate of the time needed to complete the analysis of recovered fossil materials and prepare a final report.

<u>Verification</u>: A copy of the preliminary paleontologic resources report shall be submitted to the CPM for review, comment, and approval within 90 days following completion of the data

recovery and site mitigation work by the designated paleontologic resources specialist for the project.

PAL-7 The project owner shall ensure preparation of a final paleontologic resources report by the designated paleontologic resources specialist if significant fossil resources are found. The project owner shall submit the final report to the CPM for review, comment, and approval within 90 days following completion of the analysis of the recovered fossil materials and related information.

<u>Protocol</u>: The final report shall include (but not be limited to): the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; results and findings of any special analyses conducted on recovered paleontologic resource materials and data; and research questions answered or raised by the data from the project.

<u>Verification</u>: A copy of the final paleontologic resources report shall be prepared by the designated paleontologic resources specialist for the project and submitted to the CPM for review, comment, and approval if significant paleontologic resources are found. The final report shall be submitted to the CPM within 90 days following completion of the analysis of the recovered fossil materials and related information.

PAL-8 The project owner shall submit an original or an original-quality copy of the approved final paleontologic resources report to the appropriate paleontologic information repository(ies) and one copy of the original to the CPM.

<u>Protocol</u>: The report copy sent to the information repository(ies) shall include the following (as applicable to the final report): clean and reproducible original copies of all text; originals of any topographic maps showing site and resource locations; original or clear copies of drawings of significant paleontologic resource materials found during surveys, data recovery, or site mitigation; and photographs (including a set of negatives, if possible) of significant paleontologic resource materials found and evaluated during the project.

<u>Verification</u>: The project owner shall maintain in its compliance files copies of all documentation related to the filing of the original materials and final paleontologic resources report with the appropriate paleontologic information repository(ies), if significant paleontologic resources are found.

PAL-9 The project owner shall deliver for curation all significant paleontologic resources materials collected during data recovery and mitigation for the project. The

materials shall be delivered for curation in a public repository which meets Society for Vertebrate Paleontology (SVP) requirements for the curation of paleontologic resources.

<u>Verification</u>: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate public repository(ies) with which it has provided for delivery for curation of the paleontologic resources materials collected during data recovery and site mitigation for the project.

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#### SOIL AND WATER RESOURCES/SITE REMEDIATION

The Commission must determine whether the project complies with all applicable laws, ordinances, regulations, and standards related to soil and water resources. This analysis reviews the potential impacts to soil and water resources to establish:

- \* whether the project will affect the availability of the city's water supplies;
- whether the completed facilities will be vulnerable to flooding;
- whether project construction or operation will lead to accelerated wind or water erosion and sedimentation; and
- whether project construction or operation will lead to degradation of surface or groundwater quality.

This section also reviews whether the proposed site remediation process will adequately mitigate potential impacts to public health and the environment due to inadvertent migration or seepage of contaminated soil or groundwater that may be disturbed by project activities at the site.

#### 1. Setting.

Existing topography at the previously undeveloped site is fairly level with some low mounds and depressions created by rock, soil, and other debris dumped on the site over many years. Elevations range from 5 to 25 feet above sea level with most of the site above 18 feet. Existing, unlined drainage swales are found near the northern and western boundaries of the site. In general, runoff flows to the north and west and drains into storm drain inlets off-site. The site is predominantly covered by native and non-native brush and wild grasses. (AFC, p. 5.13-3; FSA, Vol. I, p. 45.) Contaminated soils from construction debris and other industrial

<sup>&</sup>lt;sup>132</sup> Since the location does not support productive farmland, construction of the project will not displace or curtail agricultural land uses. (AFC, p. 5,9-2.)

waste are found in the existing landfill on-site and will be handled in accordance with the site remediation plan discussed below. (FSA, Vol. I, p. 62.)

San Francisco Bay is the only significant surface water feature within the area. Water quality in the Bay has been severely impacted by pollutants associated with urban development since waterfront areas were used for industrial activities and waste disposal. Stormwater runoff from industrial areas is a major source of metals and other toxics found in sediments and marine organisms in the Bay and its tributaries such as Islais Creek, which is about 700 feet north of the site. The Islais Creek area has been identified as a potential toxic "hot spot" by the State Water Resources Control Board (SWRCB).<sup>133</sup> (AFC, p. 5.13-2; 7/20/95 RT 277:17-25.) The site is located within the Islais Valley Groundwater Basin.<sup>134</sup> (FSA, Vol. I, pp. 43-44.)

Wastewater treatment in the site vicinity is provided by the Southeast Water Pollution Control Plant (WPCP) which treats approximately 65 million gallons per day. Peak capacity for secondary treatment is approximately 150 million gallons per day. The sewer system served by the WPCP also collects stormwater runoff. The system will be expanded not because of this project, but to allow treatment of up to 100 million gallons per day of stormwater runoff from the existing urban/industrial environment. System storage capacity is also being expanded. (FSA, Vol. I, p. 44; 7/13/95 RT 176.)

<sup>133</sup> Toxic hot spots are areas where pollutant concentrations are sufficient to threaten public health or wildlife. (Cal. Water Code, § 13391.5[e].) Contaminants found in the Islais Creek area, covering an estimated 10 to 50 acres, are silver, arsenic, chromium, mercury, lead, polynuclear aromatic hydrocarbons and polychlorinated biphenyls. (FSA, Vol. I, p. 43.)

<sup>&</sup>lt;sup>134</sup> The basin is open to the Bay and bounded inland, both vertically and horizontally, by bedrock. It is shallow due to the thinness of the unconsolidated sediments, has low water storage capacity, and is highly susceptible to contamination. Since it is hydrologically connected with the Bay, the groundwater quality reflects that of the Bay. The groundwater basin is not used for drinking water. (FSA, Vol. 1, pp. 43-44.)

### 2. Potential Impacts.

The project will not adversely affect the availability of city water supplies because all project water requirements, with the exception of potable water needs, <sup>135</sup> will be met by use of secondary treated wastewater or effluent from the WPCP. (FSA, Vol. I, p. 51.) Operational discharges will be routed back to the WPCP and will not adversely affect water quality. Mitigation measures will be implemented to identify and provide erosion and stormwater runoff control during construction. (*Id.*, p. 63.) Specific site remediation measures will be implemented to protect public health and the environment from exposure to contaminated soil and groundwater during on-site construction activities. (Staff's 9/12/95 Written Supplemental Site Remediation Testimony as amended 9/14/95.)

# 3. Summary of Evidence and Proposed Mitigation.

The evidence on soil and water resources was uncontroverted except for concerns raised by the Intervenors regarding site remediation.

A. <u>Water Supply</u>. Effluent will be piped from the WPCP to the site by an underground pipeline. SOIL AND WATER FIGURES 1 and 2, respectively, show the peak and average water requirements and flows for the facility. Effluent flows from the WPCP will range from 2.95 to 3.10 million gallons per day. Roughly 80 percent of this effluent will be diverted

San Francisco imports most of its water from the Hetch Hetchy Reservoir system located on the Tuolumne River in the central Sierra Nevada. Average annual delivery capacity is about 325 million gallons per day. (FSA, Vol. I, p. 44.) The project will be connected to the city water supply for its potable water needs estimated to be seven gallons per minute: five gallons for chemical feed and the remaining two gallons for domestic purposes. (Id., p. 52.)

SFEC expects to use the city's potable water supply as a backup during timed maintenance periods when the WPCP is not operating. It is estimated that approximately 2,000 gallons per minute would be required for 12 hours, 12 times a year (0.89 acre feet of water per year.) Purified water would not be produced during these periods. The city has indicated that the existing water mains have sufficient capacity to meet the project's needs. (FSA, Vol. I, p. 52.)

for treatment and then used for cooling tower makeup water. SOIL AND WATER FIGURE 3 shows the reclamation process and flows for this water. (FSA, Vol. 1, p. 51.) Solids from the process will be sent to a landfill for disposal while the backwash and cooling tower blowdown will be returned through a dedicated pipeline to the WPCP. [137] (Ibid.)

SFEC will produce purified water from the resulting wastewater stream either-through a multiple effect distillation evaporation process or a reverse osmosis process. 138 Approximately 250 gallons per minute (0.36 million gallons per day [gpd]) of purified water will be returned to the WPCP using the distillation process; approximately 3,500 gallons per minute (1 million gpd) wouldwill be returned using the reverse osmosis system. (FSA, Vol. I, p. 51.)

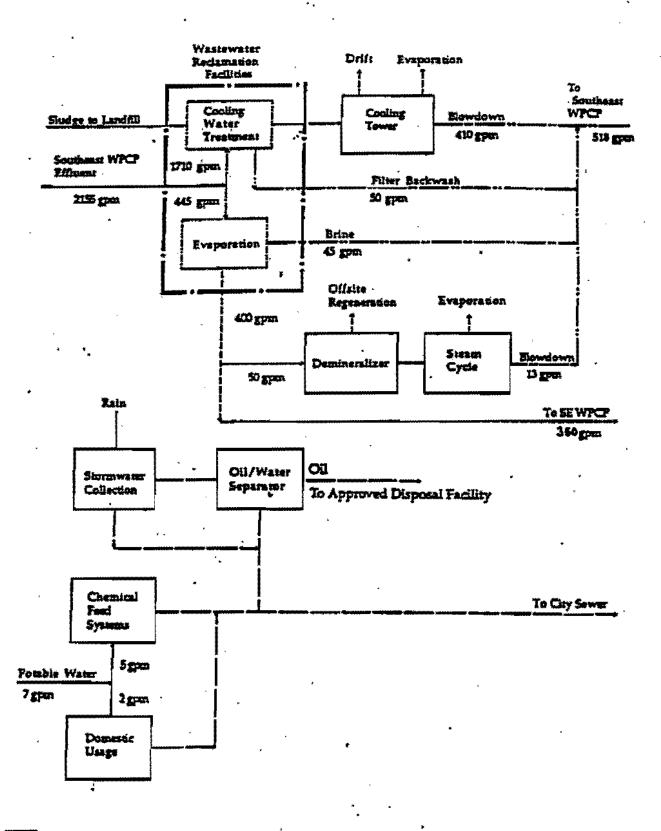
The draft Effluent Agreement between SFEC and the City and County of San Francisco allows the WPCP to accept up to one million gallons of reclaimed water per day or a minimum of 1,000 acre feet per year. (Effluent Purification Services Agreement, 4/11/95 Draft, pp. 5-6, [Attachment to FSA, Vol. I, Soil and Water Resources].)

<sup>&</sup>lt;sup>137</sup> SFEC will obtain an Industrial Discharge Permit to ensure that wastewater discharges from equipment washdown, collected stormwater, and sanitary wastewater streams discharged to the sewer system comply with all applicable standards. (FSA, Vol. 1, p. 63.)

<sup>128</sup> SFEC initially proposed to use a multiple-effect distillation evaporation process to produce purified water. (FSA, Vol. I, p. 52; AFC, p. 3-73.) After SFEC identified San Francisco Thermal as the steam host for the project, an alternative water treatment system using a reverse osmosis unit was proposed. (FSA, Vol. I, p. 52.)

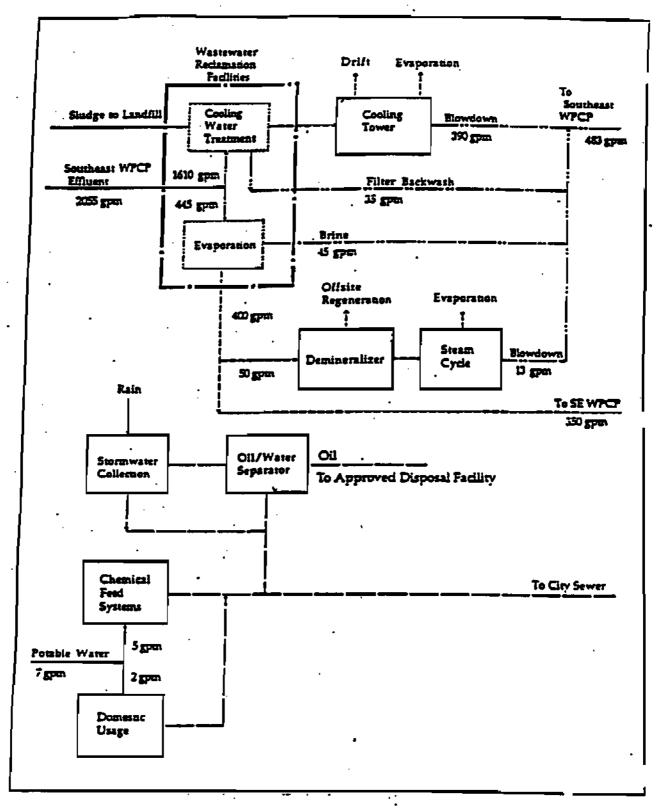
<sup>139</sup> The draft Effluent Agreement stipulates that reclaimed water delivered to WPCP may not be produced by a steam process or multiple-effect distillation evaporation process. The AFC initially included a water reclamation plant on the site which would have used water treated by the multiple-effect distillation process. Subsequently, SFEC removed the proposed water reclamation plant from the project description. However, SFEC maintained the two alternative water treatment processes in its project description, which was finally amended in its November 27, 1995 Comments on the Proposed Decision to adopt the reverse osmosis process. (FSA, Vol. 1, p. 52.)

# SOIL AND WATER FIGURE 1 Peak Water Requirements and Flows

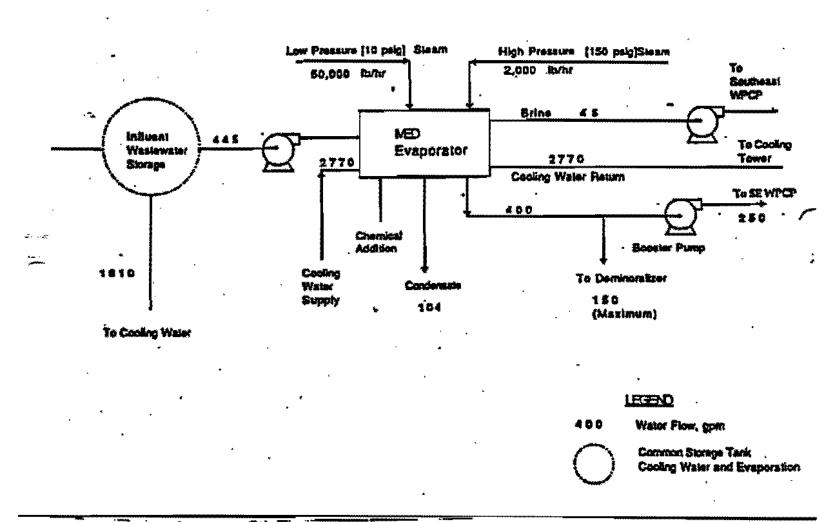


(Source: FSA, Soil and Water Resources Figure 1.)

# SOIL AND WATER FIGURE 2 Average Water Requirements and Flows



(Source: FSA, Soil and Water Resources Figure 2.)



(Source: FSA, Soil and Water Resources Figure 3.)

B. <u>Flooding</u>. San Francisco is not listed as a flood plain hazard area under the Federal Emergency Management Agency's (FEMA) jurisdiction since there are no streams or rivers in the site vicinity. (AFC, p. 5.13-4.) However, potential for tidal flooding exists. The U.S. Army Corps of Engineers estimates that the one hundred year tide in the site area is 6.7 feet National Geodetic Vertical Datum (NGVD). The Port site ranges in elevation from 8.4 to 26.7 feet NGVD with the majority of the site in excess of 10 feet NGVD. (FSA, Vol. I, p. 53.) Thus, the danger for total flooding of the site is remote.

SFEC estimated that the likely run-up of an earthquake generated tsunami with a 100-year interval is 5.5 feet NGVD in the Hunters Point area with a maximum elevation of 9.0 feet NGVD. Since the majority of the Port site is over 1,000 feet from the Bay and over 700 feet from the Islais Creek Channel, flood run-up should not be a problem. Furthermore, the site is protected by several major structures between the site and the Bay. (*Ibid.*)

C. Erosion and Sedimentation. Wind and water erosion may be accelerated by construction and operation, leading to sediment deposits off-site and into the Bay. Since soils are contaminated, deposition of this sediment could significantly affect water quality and biological resources within the Bay. Excavation, grading, and earth moving activities during construction remove the vegetative cover and loosen the soil structure, allowing run-off to entrap and remove soil particles. Wind crossing the soil surface, unimpeded by vegetation or structures that reduce wind velocity, can also entrap and remove soil particles creating airborne dust potentially hazardous to public health. (Id., p. 54.)

SFEC will obtain stormwater discharge permits from the SWRCB pursuant to the National Pollutant Discharge Elimination System (NPDES) requirements for construction stormwater discharge and storm drain standards. (AFC, pp. 5.9-2, 5.13-7.) SFEC will also file a Storm Water Pollution Prevention Plan (SWPPP) to identify sources of pollution and to

provide for elimination of non-stormwater discharges to the storm drain system. (AFC, pp. 5.13-7, 5.13-8.)

Measures to limit fugitive dust will include spraying water or chemical dust suppressants on roads and parking lots. Other disturbed areas such as open storage piles will be stabilized by fabric covers, water, or chemical suppressants. (FSA, Vol. I, pp. 63-64.) The site remediation plan establishes methods to handle contaminated soils. Since the majority of the site, except for a small area of landscaping, will be covered with structures or impervious surfaces, the likelihood of erosion is minimal or non-existent. (Id., p. 55.)

D. <u>Site Remediation</u>. SFEC conducted two environmental site assessments (ESA) to determine the presence of contaminated materials from past land use. <sup>141</sup> The first phase (Phase I) ESA analysis was based on site reconnaissance and review of available information on past use. The second phase (Phase II) ESA, which was conducted in May and June, 1994, included soil and groundwater sampling to identify possible contaminants. (7/20/95 RT 201-202; FSA, Vol. I, p. 46.) An additional "Soil Boring and Sampling Report" was submitted in July, 1995 by geologist Dwight R. Hoenig who presented testimony on behalf of SFEC. (7/20/95 RT 226.)

<sup>&</sup>lt;sup>140</sup> Project construction and operation can lead to groundwater degradation from inadvertent spills and discharges of solvents and oils which could be washed off-site by stormwater drainage into the sewage system or into the Bay. SFEC will develop a Spill Prevention Control and Countermeasures Plan to control run-off contaminated by inadvertent spills from causing off-site impacts. (AFC, p. 5.13-9; FSA, Vol. I, p. 55.)

<sup>141</sup> In 1989, the Port conducted soil and groundwater testing at Pier 94 in preparation for the closure of the solid waste disposal facility adjacent to the site. Soil sampling showed the presence of volatile and semivolatile compounds and elevated concentrations of metals. The contaminants were found in the fill material at depths ranging from five to forty feet over the entire site and appeared to be distributed randomly. (FSA, Vol. I, p. 47.)

The investigation also tested groundwater samples from monitoring wells on Pier 94 which detected elevated concentrations of mercury and lead. Most of the contaminants identified in the soil, however, did not appear to migrate into groundwater, which is found less than ten feet under the Pier area. Therefore, it is unknown whether groundwater contamination at Pier 94 was due to fill material at the site or to migration of contaminants from other locations. Recent groundwater monitoring by the Port indicates that although mercury and lead levels have declined, barium and iron levels remain elevated above drinking water standards. (*Ibid.*) It must be noted, however, that this groundwater is *not* used as a source of local drinking water.

Contaminated Soil. The Phase II ESA generally reflected the results of previous soil sampling at Pier 94. (FSA, Vol. 1, p. 49; 7/20/95 RT 256-257.) Soil samples from six borings, ranging in depth from about 139 to 194 feet, were analyzed for volatile and semivolatile organics, chlorinated pesticides and herbicides, polychlorinated biphenyls, metals, diesel, and gasoline. Selected soil samples were also tested for cyanide, sulfide, fluoride, flammability, asbestos and heavy metals. (FSA, Vol. I, pp. 46-48.)

Chemicals were found at apparently random locations within the fill material, showing no clear concentration trends with depth. Soil sample locations in relationship to groundwater depth also did not seem to influence the distribution of chemicals at the site. High concentrations of metals and organic chemicals were found in samples collected both above and below the water table. (FSA, Vol. I, p. 49.)

<u>Groundwater</u>. Groundwater samples were taken at three boreholes at different locations from the soil sampling boreholes. The depth of each borehole was determined by groundwater level. All groundwater samples were analyzed for volatile and semivolatile organics, chlorinated

Volatile organics were not detected in any of the soil samples. Five semivolatile organics were detected in samples from three of the borings. Relatively low concentrations of pesticides were found in samples from each of the six borings. Most samples containing pesticides were collected from above the water table. (FSA, Vol. 1, p. 48.)

Polychlorinated biphyenyls were detected in locations above the water table in five of the six boreholes at concentrations well below the Federal Toxic Substance Control Act limit for hazardous levels. Low levels of petroleum hydrocarbons similar to diesel and gasoline were also detected in some of the soil samples. (*Ibid.*)

At least 10 metals were detected in all samples collected above and below the water table. The highest concentrations were found in samples collected within fill material containing wood and other building debris. Lead and zinc were detected in one sample at concentrations high enough to classify the soil mixture as a hazardous waste. Lead, copper, nickel, cadmium, mercury, and zinc were detected in other samples at levels that potentially could be classified as hazardous wastes, pending the results of further tests. Samples from native Bay mud contained metal concentrations below regulatory limits for hazardous waste. (Id., pp. 48-49.)

Cyanide and sulfide were detected at trace amounts far below the U.S. EPA level for a reactive waste. Asbestos was reported in four samples at levels ranging from under I percent to 10 percent. The 10 percent sample exceeds the California regulatory limit for hazardous waste; however, the laboratory procedure cannot distinguish between naturally occurring asbestos minerals and those caused by human activities. (FSA, Vol. 1, p. 49.)

pesticides and herbicides, polychlorinated biphenyls, metals, diesel, and gasoline. (FSA, Vol. I, p. 49.)

Trace amounts of a volatile organic (benzene) and two semivolatile organics were detected at levels below federal and state primary drinking water standards. Polychlorinated biphyenyls were not detected in any of the samples. Two of the three groundwater locations contained detectable concentrations of diesel and gasoline. Relatively low concentrations of the pesticide heptachlorepoxide were detected in one groundwater sample. All groundwater samples contained detectable but low concentrations of arsenic, barium, and nickel. These concentrations are below federal and state drinking water standards except for barium in one sample, which exceeded California but not federal standards. (*Ibid.*)

SFEC Testimony. Dwight Hoenig<sup>144</sup> testified that based on his review of the soil analyses in the 1989 Pier 94 study, the Phase II ESA, and his "Soil Boring and Sampling Report," it is likely that the contaminated soils could be managed on-site as non-hazardous waste under a variance issued by the Department of Toxic Substances Control (DTSC). (7/21/95 RT 216-217: 6/13/95 Written Testimony of Dwight Hoenig, Section 6(d).)

According to Mr. Hoenig, there must be evidence of a significant release of toxic materials or a threat of release that may affect public health or the ecosystem before a regulatory agency would require active site remediation. (7/20/95 RT 213-214.) Based on the known and reasonably anticipated contaminants found at the site, construction activities are not likely to

<sup>&</sup>lt;sup>144</sup> Mr. Hoenig, formerly Regional Administrator of the Department of Toxic Substances Control, is General Manager of Mittelhauser Corporation, an environmental consulting firm specializing in property remediation. (7/20/95 RT 210.)

The report is based on 13 boring holes that were 5 or 10 feet deep to analyze heavy metal content in the materials affected by the site grading and excavation plan. The investigation revealed results similar to the Phase II ESA. (7/20/95 RT 229:3-7; 230:3-14; 261:8-17; "Soil Boring and Sampling Report.")

result in any significant release of hazardous substances. (Written Testimony of Dwight Hoenig, July 13, 1995, Section 6(b).) Further, site development such as grading and construction of foundations, parking lots, and other impervious areas would tend to decrease the potential migration of contaminants from percolation of rainfall into the fill material. (7/20/95 RT 224-225.)

On cross-examination by Intervenors, the witness conceded that additional groundwater investigation would be required. (7/20/95 RT 228:14-15; 245:14-22; 247:19-21.) However, the San Francisco Regional Water Quality Control Board (SFRWQCB) did not raise concerns about the water quality in the monitoring wells at the Pier 94 site which is presumed to be similar to groundwater at the site. (Id., p. 243; 7/20/95 RT 247:13-18; 258:1-2.) Nevertheless, in response to concerns raised by both Staff and the Intervenors, SFEC agreed to conduct additional groundwater investigation under guidance of the DTSC—as—part—of—the formulation of the Site-Remediation Plan. (9/12/95 RT 257-259, 261.)

SFEC witness Raymond Saito testified that he also reviewed the ESA's and Mr. Hoenig's report and developed a qualitative conceptual pathway analysis to identify potential exposures that may exist at the site. (9/12/95 RT 296.) Mr. Saito concluded that soil is the only viable

The landfill contains common construction debris found in the Bay Area; it is not a chemical fill site. (7/20/95 RT 219-220.) Although the investigation revealed that metal concentrations, primarily lead, exceed state standards for hazardous waste, the soil pH exhibited a basic characteristic above a lavel of 7 levels are in the "basic" range (level 7) which indicates that contaminated soil can be managed on-site. (ld., p. 217, 241.) Further, the Bay mud formation under the site is like a membrane and serves as a very good barrier to the vertical movement of contaminants. (ld. pp. 218-219.) In addition, while the investigation revealed the existence of carcinogenic polynuclear aromatic hydrocarbons (PAH) associated with creosoted timber deposited in the landfill, these creosote derivatives do not tend to migrate because they are neither soluble nor very volatile. (ld., p. 221.)

<sup>&</sup>lt;sup>147</sup> Mr. Hoenig did not sample underground water in preparing his "Soil Boring and Sampling Report." (7/20/95 RT 232:11-13.) The Phase II ESA stated that "only limited information is currently available concerning the characteristics of groundwater in the study area." (ESA, p. 2-5.)

The SFRWQCB has required since 1987 that the Port submit routine groundwater monitoring reports for the landfill area adjacent to the site. As recently as January 26, 1995, the SFRWQCB did not require the Port to undertake any active remediation on that property other than to conduct surface grading to eliminate ponded water as a mechanism to promote run-off and prevent infiltration. (Written Testimony of Dwight Hoenig, July 13, 1995, Section 6(d); Exhibit 20.)

exposure medium at the site and, then, only if someone were to dig on the site. Groundwater would not be an issue for public concern since there are no intake mechanisms such as wells. After the project is constructed, even the exposure pathway of digging into the soils will be eliminated. (9/12/95 RT 297-298.)

Staff Testimony. Staff indicated that additional testing would be necessary to characterize the site prior to construction and that remediation measures should be designed to mitigate the potential effects of specific hazardous materials found at the site. (7/20/95 RT 278-284.) Staff proposed a remediation plan that requires SFEC to coordinate its activities under the technical guidance of the SFRWQCB and Region 2 of the DTSC. (9/12/95 RT 253-265; 261-265, 274.) The remediation process includes the following elements:

- SFEC entered into a voluntary clean-up agreement with DTSC Region 2 on July 21, 1995.
- SFEC submitted existing site characterization data to DTSC and SFRWQCB.
- The agencies determined that existing borings should be evaluated to determine groundwater flow and that additional groundwater sampling for volatile organic compounds, total petroleum hydrocarbons, and heavy metals is required to better characterize the level and extent of contamination beneath the site.
- Risk assessments will be conducted to determine the level of site clean-up necessary. For each contaminant detected, the risk or hazard level is analyzed for the potential soil, water, or air migration pathways following EPA guidelines. A qualitative ecological risk assessment will be conducted to identify exposure pathways from contaminated soils and groundwater to aquatic species and habitats.
- If remediation is necessary, SFEC will prepare a removal or remedialsite action workplan to identify objectives, analyze removal alternatives, describe procedures to excavate, encapsulate, treat, store, handle, transport, and dispose of contaminated materials off-site, describe equipment to be used, describe methods to ensure health and safety of workers and the public during remediation, and set forth the implementation schedule which wouldwill occur prior to or during the initial stages of construction. (9/12/95 Staff's Written Supplemental Site Remediation Testimony, as amended 9/14/95; Letter from DTSC to SFEC, September 8, 1995.)

According to Staff, implementation of the appropriate site remediation measures that reduce contaminant levels and/or block exposure pathways will ensure that no significant adverse impacts will occur to public health or environmental resources due to project construction and operation. (Staff's 9/12/95 Written Supplemental Remediation Testimony as amended 9/14/95.)

Intervenor Testimony. The Intervenors presented the expert testimony of Peter Strauss<sup>149</sup> who reviewed the ESA reports as well as the "Soil Boring and Sampling Report," and determined that information regarding the level of groundwater contamination was inadequate. (9/8/95 Written Supplemental Testimony of Peter Strauss, p. 7.) The witness asserted that additional investigation into the hydrology of the area, including groundwater flow, is necessary to evaluate whether the project will have a deleterious effect on the Bay ecosystem. (Id., p. 8; 6/20/95 Written Testimony of Peter Strauss, p. 11.)

The witness proposed that if a groundwater monitoring system is installed at the site, the standard for lead contamination should be based on the Water Quality Standard for protection of aquatic life established by the SWRCB. (9/8/95 Testimony of Peter Strauss, p. 7.) Further, soil and groundwater samples should also be characterized for petroleum wastes, especially because recent groundwater samples at Pier 94 show increased amounts of total petroleum hydrocarbons. (ld., p. 9; Ex. 20.)

The Intervenors also indicated concern that project construction will cause compression of the landfill material due to weight of the buildings and increased truck traffic. As soil is compressed, more contaminants in the soil could migrate to groundwater beneath the site. (6/20/95 Written Testimony of Peter Strauss, p. 11.) In rebuttal, SFEC asserted that the potential for soil compaction due to site development is minimal since any settlement is expected

<sup>&</sup>lt;sup>149</sup> Mr. Strauss is Director of Environmental Management for MHB Technical Associates, which specializes in technical, economic, and management evaluations of energy production facilities and environmental management practices.

to be measured in inches or not at all. (7/20/95 RT 174:2-22; see also, SFEC's Geotechnical Evaluation, December, 1994.)

Regarding the remediation plan, the Intervenors argued that the Commission should not make a decision regarding certification until the scope of remediation is determined and subject to public hearing. According to the Intervenors, it is inappropriate under CEQA to delay the resolution of potentially significant environmental issues without specifying the potential optional mitigation and the specific performance criteria for determining what mitigation will be employed. They claimed the record did not state what standards or criteria (such as the Water Quality Standards) would be used to identify appropriate mitigation since the investigation was continuing even as the Commission considered certification. (Intervenor's 9/15/95 Comments on 9/12/95 Hearing.)

## 4. Commission Discussion.

The evidence is conclusive that contaminated soils exist on the site and that potential migration of such toxic materials, if not contained, could adversely impact public health and the environment. The uncontroverted evidence shows that contaminated soils can be contained on-site and that the potential for migration is minimal or non-existent. The Commission takes administrative notice that SFEC submitted a Site Action Plan to the DTSC on December 13, 1995. The comment period ran from December 15, 1995 through January 19, 1996, and a public workshop on the submittal was conducted by the DTSC on January 9, 1996. Interveners participated at the hearing and submitted comments on the Site Action Plan. 151 The DTSC is

<sup>150</sup> SFEC witness Raymond Saito stated that he has "been involved in nearly a bundred risk assessments, quantitative and qualitative, and [soil compression causing groundwater absorption of soil contaminants] has never really been something that I've dealt with in dealing with all of the different hydrogeologists and geologists that I have." (9/12/95 RT 306:2-9.) Mr. Saito believes that it is scientifically unlikely that soil contaminants, especially in the clay environment at the site, would be absorbed by the groundwater. (Id., lines 10-22.)

<sup>&</sup>lt;sup>151</sup> On January 18, 1996, the Intervenors sent the Committee a copy of their comments on the Site Action Plan. The Intervenors expressed concern that although groundwater investigation revealed the presence of methane at the site. Staff did not conduct a CEQA analysis for methane natigation. The Commission takes administrative notice that state and local regulations require putteration of potential hazards from methane and that the DTSC must comply

expected to act upon SPEC's Site Action Plan prior to full Commission consideration of this Decision. Based upon the expert advice provided by the DTSC and the SPRWQCB, and upon the due process provided to the parties, the Commission accepts the proposed Site Action Plan and, subject to further action by the DTSC, adopts and incorporates it begin by reference.

The Site Action Plan proposes to move contaminated site soils that are present at elevations above construction grade to areas currently below construction grade. Soils from excavations and utility trenching will be reused to achieve construction grade. Utility trenches will be backfilled with clean imported fill materials to allow for safe and unrestricted future access. All existing soils will be covered with the clean imported fill. (Site Action Plan, pp. 24-25.) Following completion of foundation activities, additional clean fill material will be imported to achieve final grade. After construction, project structures and paved parking lots as well as stormwater drainoff and erosion measures will reduce the amount of rainfall infiltration which will, in turn, minimize the transport mechanism for subsurface contaminants. (Id., p. 25.)

Although SFEC's witnesses established that contaminated soils could be managed on-site, Intervenors were concerned that project activities could cause the soils to leach into groundwater underneath the site. 152 At the September 12, 1995 Hearing, the parties agreed that more data on groundwater contamination and hydrology were necessary before a remediation plan could

with CEQA. (9/12/95 RT 262:14-18.) Accordingly, the DTSC approved Site Action Plan incorporated into the Conditions of Certification will include methane outgation in compliance with applicable law.

Regarding soil compaction, SFEC presented sufficient evidence to establish that compression or settlement from project structures will be minimal and should not cause soil to migrate to groundwater levels. The Intervenors did not present any evidence to the contrary. The Intervenors presented testimony of Peter Strauss who asserted that mounting in fill areas creates a pressure that forces water in a radial direction outwards. This movement could cause soil contaminants to leach into groundwater and migrate into the San Francisco Bay. (9/12/95 RT 224-225.) While the winness agreed that leaching at the site entire cause in its undeveloped state, he claimed that the weight of new buildings and parking tota on the site could cause compression of the contaminated roots into the underground saturated zone. (Ibid.) The sumers estimated that compression up to one fool could occur. (Id., p. 226:10-18.) He also agreed that the compaction of the soil uself-Tould create a barrier for infiltration. (Id., p. 230:10-18.) He also agreed that the compaction of the soil uself-Tould create a barrier for infiltration. (Id., p. 233:6-11.)

be approved and implemented. The Commission therefore finds that the Intervenors' concerns regarding additional groundwater testing have been addressed.

In October 1995, SFEC conducted a new groundwater investigation at the request of EFFSC and the SFRWQCB. Seven temporary monitoring wells were installed to better define the hydraulic gradient of shallow groundwater at the site and to further evaluate groundwater quality regarding the estuarine environment. Although the site is not contiguous with the San Francisco Bay, an exposure pathway exists for chemicals in groundwater to migrate into the tidal zone of Islais Creek and the Bay. (Site Action Plan, p. 19.) Further, sSampling for total petroleum hydrocarbons and heavy metals in the groundwater was conducted as part of the voluntury clean up plansite investigation as requested by the Intervenors. (Site Action Plan, p. 5; and Tables 7 and 8.) This investigation confirmed the results of earlier investigations.

Groundwater beneath the site is not suitable for human consumption because of its proximity to the Bay. There are no existing drinking water wells in the direction of the groundwater gradient between the site and the Bay. The most significant contaminant movement in soils is a function of liquid movement and contaminant solubility. (Site Action Plan, p. 10.) Under current site conditions, one mechanism of contaminant migration is due to surface recharge from rainfall infiltration. The proposed site grading, construction of buildings and parking lots as well as the implementation of the stormwater drainage plan will reduce rainfall infiltration and the net water recharge rate at the site. (Ibid.)

The previous studies conducted by SFEC indicated that the site soils are alkaline (pH greater than 7.0). Metals adsorb in soil as pH increases. This phenomenon reduces contaminant solubility and inhibits contaminant movement in soil. Thus, the alkaline soil conditions at the site act to reduce the ability of metals present in subsurface soils, including lead, to mobilize and migrate. (Ibia.)

Impacted groundwater beneath the site flows towards the Bay and contaminants can bioaccumulate in the body tissues of marine species. Therefore, there is potential for human exposure to site chemicals from the ingestion of fish caught in surface water surrounding the site. A study conducted by the SFRWQCB, SWRCB and the California Department of Fish and Game in June 1995, which measured contaminant levels in edible tish present in the Bay, showed that chemical levels in fish caught in and near Islans Creek (near the site) did not exceed the conservative pilot study screening values (PS-SVs). This indicated that, although the contaminants are present below the site, significant migration into the Bay is not occurring (Site Action Plan, pp. 14-15.) The data demonstrate that there is no relationship between contaminants of concern present in the site groundwater and those present in fish tissue above PS-PV. (Id., p.15, 19.) Potential groundwater contamination, which is unlikely to correlate to the contaminated soils, can be controlled by groundwater monitoring wells.

Whether the contaminated soils will be handled on site as proposed by SFEC will depend on the extent and levels of groundwater contamination resulting from the soil tests. The Intervenors argued that project certification should be delayed until the final testing results and risk analyses are completed. Intervenors also advocated public participation in the selection of appropriate standards used to conduct the risk analyses. In particular, the Intervenors were concerned that neither the DTSC nor Staff would indicate whether the Basin Plan Water Quality Standards would be applied.

The Commission retains jurisdiction in this case after certification and continues to monitor compliance during the life of the project. Nevertheless, the Commission as lead agency typically relies on the technical assistance of expert agencies, such as the DTSC, to identify applicable standards in crafting appropriate mitigation measures. The intervenors argued that project certification should be delayed until the final testing results and risks analyses were completed. The Site Action Plantemediation program, which includes the voluntary clean-up agreement between SFEC and the DTSC, contains the final testing results, and provides data to support the on-site soil management plan. The Site Action Plan is has been incorporated into the Conditions of Certification. Public participation and comments will be included in the implementation of the program. (9/12/95 RT 277-278.) Determination of the appropriate risk assessment standards will be based on the recommendations of the expert agencies in

consultation with SFEC, Staff, and the Intervenors. <sup>153</sup> Prior to Commission adoption of this Decision, SFEC must submit its final Site Remediation Plan for Commission approval. Accordingly, the specific performance criteria and mitigation options will be known before certification and the legal authority cited by the Intervenors for delaying the Decision does not apply. <sup>154</sup> Alternative mitigation measures have been described in the record, which indicates that the contaminated soils can be handled by removal or encapsulation. Prior to construction, SFEC must obtain DTSC approval of a Remedial Action Plan or Removal Action Plan that conforms with applicable law.

The Commission finds that compliance with the approved SiteRemedial or Removal Action Plan will ensure that potential impacts from contaminated soils due to project activities are mitigated to levels of insignificance.

The Commission further finds the proposed use of effluent in project operations and the purification and recycling of the subsequent wastewater stream are salutary measures that will prevent impacts to the city water supply and sewage systems. The proposed mitigation measures designed to reduce potential impacts from drainage run-off, sedimentation, and erosion meet NPDES requirements and will adequately protect public health and the environment. The potential for flooding is minimal or non-existent and therefore mitigation is not required.

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#### COMMITTEE ORDERS.

<sup>- 153</sup> The Intervenors have the apportunity to advocate use of the Rasin Plan Water Quality Standards.

<sup>1011,</sup> for the proposition that a lead agency may not defer environmental assessment until after project approval. However, that eace held that where evidentiary uncertainties are resolved and several optional mitigation measures are proposed to the lead agency prior to project approval, "the agency content itself to eventually devising measures that will satisfy specific performance criteria articulated at the time of project approval," (Id., p. 1027.) In the present case, analysis of groundwater contamination and alternative remediation plans will be presented to the Commission prior to project approval; the compliance process will ensure implementation of the appropriate mitigation measures.

ORDER 1. SFEC has proposed two water purification processes (distillation or reverse osmosis); however, the draft Effluent Agreement indicates that reclaimed water delivered to the WPCP may not be produced by a multiple effect distillation evaporation process. Within 30 days of the date of issuance of this Proposed Decision, SFEC is directed to clarify the ambiguity in the record by submitting a revised Project Description of the on-site water purification process that specifies which of the two alternative processes will be employed.

ORDER 2. The Site Remediation Plan must be approved prior to construction of this project. Accordingly, SFEC is directed to submit a final Site Remediation Plan, which includes the participation of the Bayview Hunters Point Clean Environment Coalition, within 60 days of the date of issuance of this Decision.

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#### FINDINGS AND CONCLUSIONS

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

- 1. Since the urban location of the site does not support productive farmland, construction of the project will not displace or curtail agricultural land uses.
- Water quality in the San Francisco Bay, which is the only significant surface water feature near the site, has been severely impacted by pollutants associated with industrial development; San Francisco Bay water is not used for drinking water.
- 3. The site is located within 700 feet of Islais Creek, which has been identified as a potential toxic hot spot by the State Water Resources Control Board and is hydrologically connected with the San Francisco Bay.
- 4. The project will not adversely affect the availability of city water supplies because all project water requirements, with the exception of potable water needs, will be met by use of secondary wastewater or effluent from the Southeast Water Pollution Control Plant (WPCP).
- 5. The project will not cause adverse impacts to the city's water quality or sewage systems because operational discharges and purified water produced from the wastewater stream on-site will be routed back to the WPCP through dedicated pipelines.

- The draft Effluent Agreement between SFEC and the City and County of San Francisco
  allows the WPCP to accept up to one million gallons per day of reclaimed water from
  the project.
- 7. SFEC will obtain stormwater discharge permits pursuant to the National Pollutant Discharge Elimination System (NPDES) requirements and file a Storm Water Pollution Prevention Plan (SWPPP) for elimination of non-stormwater discharges to ensure that potential impacts from run-off will be insignificant. SFEC will also obtain an Industrial Discharge Permit to allow other wastewater discharges to the sewer system.
- 8. SFEC will develop a Spill Prevention Control and Countermeasures Plan to ensure that run-off contaminated by inadvertent chemical spills will not cause off-site impacts.
- Since the majority of the site, except for small areas of landscaping, will be covered with structures or other impervious surfaces, the likelihood of erosion is minimal or nonexistent.
- 10. Mitigation measures to limit fugitive dust during construction, such as spraying water or dust suppressants on roads and parking lots and placing fabric covers on open storage piles, will ensure that potential adverse impacts are reduced to insignificance.
- 11. The potential for tidal flooding from an earthquake-generated tsunami with a 100-year interval is minimal or non-existent since the site is over 1,000 feet from the Bay and protected by several major structures between the Bay and the site. The site is not listed in a flood plain hazard area by the Federal Emergency Management Agency.
- 12. Contaminated soils are found on-site in the landfill that contains construction debris and other waste material.
- 13. The evidence is inconclusive whether the on-site soil contaminants migrate to the polluted groundwater beneath the site or whether contaminants have migrated from other sources.
- 14. SFEC has entered into a voluntary clean-up agreement with Region 2 of the Department of Toxic Substances Control (DTSC) to develop site characterization data, to conduct risk assessments to determine the level of site clean-up, and to develop a SiteRemedial Action Plan or Remeval Action Plan. The Site Action Plan is incorporated into the Conditions of Certification.
- 15. SFEC's Site Action Plan will manage contaminated soils on site and import clean fill to achieve final construction grade. All existing surface soils will be covered with imported clean fill, buildings, and paved parking lots to virtually eliminate migration pathways for contaminated soils: SFEC will conduct the remediation process under the technical guidance of the DTSC and the San Francisco Regional Water Quality Control Board

(SFRWQCB) in consultation with Staff and the Intervenors. The parties will arrange for public participation in the process.

- Direct human consumption of contaminated groundwater or surface water from the San Francisco Bay is unlikely. Further, data contained in the Site Action Plan indicate that there is no relationship between contaminants of concern present in the site groundwater and those present in edible fish caught in the site vicinity.
- 167. Site remediation measures that reduce contaminant concentration levels or block exposure pathways by which the contaminants could affect public health or ecological systems are considered appropriate mitigation measures that will reduce potentially significant impacts to insignificant levels.
- 178. Implementation of the mitigation measures, which are incorporated in the Conditions of Certification, will ensure that the project does not pose a significant risk of adverse impact to soil or water resources.
- 189. Implementation of the Conditions of Certification will ensure that the project complies with all applicable laws, ordinances, regulations, and standards related to soil and water resources as identified in APPENDIX:LORS of this Decision.

## CONDITIONS OF CERTIFICATION

SOIL&WATER-1 Prior to initiation of any grading or earthmoving activities at the site or at any associated facilities, the project owner will submit grading and erosion control plans for concurrent review and approval to the CPM and

the Port of San Francisco.

The plan will incorporate the following or similar temporary and permanent measures. The plan will also contain the dust control measures specified in proposed Conditions of Certification AQ-1 and AQ-2. These will be submitted in written form and clearly depicted at appropriate scale on a construction drawing(s). The construction drawing(s) shall clearly show the type of mitigation measure and the location where each measure will be implemented.

## Temporary Erosion Control Measures

Temporary stabilization of slopes, spoil piles, and other disturbed areas will be achieved through the use of erosion control matting, armoring the surface or equivalent methods during the rainy season.

- Dust control measures will be implemented during construction as necessary to minimize
  the generation of dust. These measures will include watering or the application of
  chemical dust suppressants (such as magnesium chloride) to all disturbed areas, including
  unpaved roads, parking lots and storage piles frequently enough to minimize the
  generation of dust. Paved roads and parking lots will be swept or flushed with water to
  minimize off-site soil tracking and fugitive dust.
- To ensure sediment is not transported off-site, sediment barriers will be installed prior to the start of construction. Wastewater generated during construction will be contained in the construction area or treated before discharge.
- Temporary drainage diversions such as ditches and berms will be used as necessary to divert run-off from construction areas to prevent ponding.
- Construction limits will be defined on-site to minimize the area of disturbance prior to construction in any given area.
- Erosion control barriers will undergo periodic inspection and maintenance after storms and run-off as required to assure adequate performance throughout the construction of the project.

Temporary erosion control measures will remain in place and receive periodic maintenance until permanent measures are implemented.

## **Permanent Erosion Control Measures**

- Permanent soil stabilization measures will include, as appropriate, drainage and infiltration systems, slope stabilization, and vegetation. All disturbed areas not occupied by a structure or roadway will be permanently stabilized through paving, revegetation or another form of protection. Traffic areas will be surfaced.
- Run-off from possible oil and chemical contaminated areas, such as the truck unloading area, chemical storage tank areas, and transformer areas will be contained. Storm water contained in these areas will be routed through an oil/water separator, neutralization basin or similar device and then discharged to the wastewater collection system.
- Visual monitoring during facility operation will be performed to identify areas undergoing erosion. Action will be taken to correct identified erosion problems.

<u>Verification</u>: No less than 30 calendar days prior to the start of grading on the project, the project owner shall submit in writing, and with construction drawings, concurrently to the CPM and the Port of San Francisco for review and approval, in consultation withand to the Bayview

Hunters Point Clean Environment Coalition (Coalition) for comment, the crosion and sediment control plan. This plan shall include the temporary and permanent crosion control measures required by this Condition or equivalent measures.

SOIL&WATER-2 The project owner shall implement the measures identified in the CPM and the Port of San Francisco approved grading and erosion and sediment control plan.

<u>Verification</u>: 30 calendar days after completion of the final grading and erosion measures, the project owner shall submit to the CPM a final grading, erosion, and sediment control report to verify that the measures in the approved plan have been implemented. These shall be submitted in written form and depicted on a construction drawing(s). The CPM shall consult with the Coalition before approving the plan.

SOIL&WATER-3 The project owner shall notify the CPM and Coalition at least 10 working days in advance of the following activities: 1) start of rough site grading for the powerplant site and 2) completion of implementing erosion control measures.

<u>Verification</u>: The project owner shall notify the CPM and Coalition in advance of the schedule for the start of these activities. If the schedule changes less than 10 working days prior to the start of these activities, the project owner shall notify the CPM by phone or letter of the changes. The CPM will verify the completion of erosion control measures by a site visit.

SOIL&WATER-4 Prior to the start of construction, the project owner must submit a notice of intent to the State Water Resources Control Board to indicate that the project will operate under provisions of the General Construction Activity Storm Water Permit. As required by the general permit, the project owner will develop and implement a Construction Storm Water Management Plan.

<u>Verification</u>: At least 10 working days prior to the start of construction, the project owner will submit to the CPM a copy of the notice of intent and a copy of the Construction Storm Water Management Plan that was submitted to the State Water Resources Control Board.

SOIL&WATER-5 The project owner shall apply for and obtain an Industrial Pretreatment Program Permit from the City/County of San Francisco for wastewater discharges from the project to the sewer system and the Southeast Water Pollution Control Plant. The project owner shall comply with all discharge standards required by the permit. The project owner shall

monitor all discharges to the city sewer system and/or the Southeast Water Pollution Control Plant as required by law or contractual obligation.

<u>Verification</u>: At least 30 calendar days prior to commercial operation, the project owner shall provide to the CPM a copy of a valid Industrial Pretreatment Program Permit which allows project wastewater to be discharged into the local sewers and to the Southeast Water Pollution Control Plant. The project owner shall submit to the CPM in the annual compliance report a monitoring report for all discharges to the city sewer system and/or the Southeast Water Pollution Control Plant. The project owner shall notify the CPM within three working days if the project discharge does not meet the standards set forth in the Industrial Pretreatment Program Permit.

## SOIL&WATER-6

Diked chemical storage tank areas shall be sized to contain 100 percent of the largest tank's capacity plus the maximum, anticipated 24-hour precipitation with a 1-in-10 chance of occurring. As specified in Conditions of Certification HAZ-2 and HAZ-9, the aqueous ammonia tank containment area shall be sized to also accommodate foam for vapor suppression.

<u>Verification</u>: As required by Conditions of Certification HAZ-2 and HAZ-9, 60 days prior to commencing construction of hazardous materials storage facilities, the project owner shall submit design drawings and specifications for spill containment structures to the CPM for review and approval.

#### SOIL&WATER-7

Prior to conducting any earth moving activities at the site, the project owner shall submit a SiteRemedial Action Plan or Removal Action Plan approved by the Department of Toxic Substances Control (DTSC) pursuant to Health and Safety Code sections 25323.1, 25356.1 and 25358.9. The project owner shall implement all site remediation measures specified in either—the approved SiteRemedial Action Plan—or Removal Action Plan.

<u>Verification</u>: The project owner shall provide the DTSC-approved <u>SiteRemedial Action Plan or Removal</u> Action Plan and the implementation schedule to the CPM and the Coalition <u>530</u> working days prior to the start of any earth moving activities at the site. The project owner shall inform the CEC Compliance Project Manager in the monthly compliance reports of the progress of all site remediation measures and provide the results of all soil and groundwater testing.

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## **BIOLOGICAL RESOURCES**

The Commission's analysis of biological resources focuses on two issues: 1) the potential for the proposed project to cause significant adverse impacts to biological resources at or near the powerplant site, along the proposed electrical and steam transmission line corridors, and along gas and water supply pipeline routes; and 2) the reasonable likelihood that the proposed project will conform with applicable laws, ordinances, regulations and standards.

## 1. Setting.

The powerplant site is an undeveloped parcel adjacent to an animal-rendering facility and several grain elevator structures. The site is situated on began fill placed there during the 1960's. While essentially flat, the site has been used as a dumping ground for rock, soil, and other debris for many years. Approximately 4 to 5 acres would be used for the SFEC powerplant facilities.

This acreage is dominated by coyote brush, a native California shrub, and numerous nonnative species such as fennel, yellow star thistle, milk thistle, and pampas grass. Even though there are no trees on the site, planted ornamental trees are found nearby which offer perching opportunities for a variety of bird species, including the red-tailed hawk. The coyote brush provides cover for the local wildlife and there are burrowing opportunities between the various debris piles. Animals presumed to be utilizing the project site are rats, house mice, gophers, skunks, raccoons, and opossums. There are no permanent water resources on the site which could support aquatic life. (AFC, pp. 5.2-1 to 5.2-10.)

## Potential Impacts.

Facility construction will result in a decrease in wildlife habitat, loss of nesting sites for shrub and ground nesting birds, and loss of raptor foraging habitat.

During field surveys conducted by SFEC and the Gommission sStaff, no rare, threatened, or endangered species nor species of special concern were found at the proposed project site or in the immediate vicinity. Based upon the significance criteria used by Staff, the proposed project should have no direct effect on any such species. (FSA, Vol. I, p. 378.)

The variety of gas, water, steam, and transmission lines for this project will be buried within existing corridors under city streets. Pipeline construction could result in the removal of some planted street trees. Following construction these trees will be replaced with the same species or another species commonly used along San Francisco streets. Temporary removal of any trees would reduce habitat for perching, nesting and roosting of birds. However, the replacement of damaged trees after construction will result in no permanent loss of habitat. (Pipeline Assessment, p. 3-3.)

## 3. Summary of Evidence and Proposed Mitigation.

Evidence offered by SFEC indicates that none of the biological impacts of the project will be significant. Therefore, SFEC asserted that no mitigation is required. (AFC, p. 5.2-14.) However, SFEC recommended the following "Impact Prevention" measures:

- Avoid known biologically sensitive areas in the vicinity of the facility;
- Minimize the amount of area disturbed by construction; and
- Improve habitat with landscaping and screening plantings following construction.

Staff concluded that the project site has some modest biological resource value which will be compromised by the construction of the proposed facility. Therefore, Staff proposed that a variety of native and non-native trees and shrubs be planted at the project site and maintained to provide nesting opportunities, cover, and food for the local birds and other wildlife. Staff recommended that the plantings chosen be: 1) suitable for the San Francisco peninsula; 2) relatively fast growing; 3) long-lived; 4) drought-tolerant; and 5) provide food and/or cover for local birds and other wildlife. (FSA, Vol. I, p. 379.)

Specific Conditions of Certification regarding these plantings were agreed to by SFEC and Staff and are included as part of the visual screening mitigation measures found in the Visual VISUAL RESOURCES section of this Decision.

No other party introduced testimony on this topic.

## 4. Commission Discussion.

The Commission has reviewed the analyses of both SFEC and Staff concerning potential biological impacts of the project. The project site itself was created from beay fill and is highly disturbed. The various utility and transmission corridors are located beneath city streets and the evidence establishes that these corridors have no biological resource value. Thus, the Commission agrees that the project poses no significant threat to biological resources.

The proposed landscaping measures will ensure that project construction and operation will result in no net loss of wildlife habitat in the area and that the project will comply with all applicable laws, ordinances, regulations, and standards adopted to protect biological resources.

#### FINDINGS AND CONCLUSIONS

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

- 1. The facility site is in a highly disturbed area devoid of legally significant or protected biological resources.
- 2. The project is not likely to disturb protected species or the habitat of protected species.
- 3. No rare, threatened, or endangered species or species of special concern are known to occur in the immediate vicinity of the facility.

- 4. The construction and operation of the project is not likely to have a significant negative impact on any biological resources in the project area, nor contribute to any adverse cumulative impact on biological resources.
- 5. The project is likely to comply with all applicable laws, ordinances, regulations, and standards concerning the protection of biological resources contained in the appropriate portion of APPENDIX: LORS of this Decision.

#### CONDITIONS OF CERTIFICATION

No Conditions of Certification are included under this topic. However, wildlife habitat has been considered in selecting plant species recommended for visual screening of the project. These plant species are listed in the Conditions of Certification which follow the discussion of VISUAL RESOURCES contained in this Decision.



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## FACILITY RELIABILITY

The Commission examined the reliability issues associated with the proposed project to determine if the project is likely to be built in accordance with typical industry norms for reliability of power generation, as well as with any project-specific reliability requirements.

Presently, there are no laws, ordinances, regulations, or standards which establish either powerplant reliability criteria or procedures for attaining reliable operation. However, the Commission must make findings as to the manner in which the project is to be designed, sited, and operated to ensure safe and reliable operation of the facility (Cal. Code of Regs., tit. 20, § 1752(c).)

Reliability can also affect compliance with the California Environmental Quality Act. If the facility is not constructed and operated in accordance with industry norms, unreliable operation or even failure of the facility could mean that more powerplants would have to be built, creating additional environmental impacts, in order to compensate for the unreliable plant.

#### 1. Setting.

The proposed powerplant site is an undeveloped piece of land in an industrial neighborhood. It lies approximately 1/3 mile east of the Southeast Water Pollution Control Plant. While there are no facilities on the site itself, it is adjacent to an animal rendering plant, grain elevators, commercial radio towers, and a parking lot which serves as a Port of San Francisco Intermodal Container Transfer Facility. SFEC proposes to construct new pipelines to carry natural gas and water to the site, and an electrical transmission line to join the powerplant to the interconnected electrical generation system.

## 2. Potential Impacts.

During its analysis, Commission Staff indicated concerns whether the proposed facility would meet its stated reliability criteria or even be able to achieve the more modest level of industry norms. (FSA, Vol. I, p. 86.) This concern was based upon the proposed lack of equipment redundancies in the steam cycle of the powerplant. The original design for the project contained no additional air compressor, and no redundant pumps for cooling water, condensate, and boiler feed water. In Staff's view, any failure of the project's steam cycle would force a shut down of the entire plant. (FSA, Vol. II, p. 80.)

Staff also queried whether the project should be required to exceed industry reliability norms in order to satisfy the "San Francisco Operating Criterion" (SPOC) used by PG&E for reliability planning. Finally, Staff raised concerns that whether, due to the lack of an executed water supply contract, whether a reliable water supply for the project could be identified. (FSA, Vol. II, p. 87.)

# 3. Summary of Evidence and Proposed Mitigation

SFEC presented evidence in support of the facility's reliability and availability, eventually addressing each of the Staff's concerns. (7/11/95 RT 12: 9-15 incorporating: AFC, § 4.3; Applicant's Responses to CEC Staff's Data Requests, 10/17/95; 12/23/95; Clarifications to the Preliminary Staff Assessment Reliability section, 6/7/95.)

In response to Staff's concerns about equipment redundancy, SFEC proposed additional equipment as a part of the facility's design. These additions conform with Staff's recommendations<sup>155</sup> reflected in Condition of Certification RELI-1 and include:

<sup>555</sup> FSA, Vol. II, at 87; Clarification to the PSA, Reliability at 1, 6/7/95.

- two 100 percent capacity condensate pumps;
- two 100 percent capacity boiler feedwater pumps;
- two 60 percent circulating water pumps; and,
- two 100 percent capacity auxiliary cooling water pumps.

SFEC presented evidence to support its position that no greater reliability is required of this facility than for any other facility in the PG&E system. While Intervenors' questions focused on the possible need for additional generation system support after a major earthquake in San Francisco, SFEC showed that earthquakes are only one of a number of potential causes of PG&E system disturbances which could create a need for local generation in San Francisco. SFEC's witness stated that both the San Francisco Operating CriterionSFOC and the Planning Criteria are designed to protect against disturbances anywhere in the interconnected power system of the western United States. Such disturbances are not limited to the San Francisco For example, without the San Francisco Operating Criterion SPOC, a major peninsula. disturbance which occurred in Idaho in December 1994 could have created a major disturbance in the San Francisco peninsula. The witness stated that the loss of a major supply artery in the Northwest is felt throughout the interconnected electrical system and the San Francisco Operating CriterionSFOC must be met to prevent problems such as voltage collapse and major outages. (7/7/95 RT 5-6.) Thus, SFEC argued that additional reliability solely to address potential seismic events in San Francisco is unnecessary and that the facility is designed to be as reliable as any in the PG&E system.

The Staff analysis demonstrated that the facility will be built to current standards for seismic design. In the event that an earthquake large enough to damage the facility should occur, the load the powerplant serves would also be damaged. Thus, facility operation immediately after such an earthquake would not be critical and no additional measures to bolster reliability are required. (FSA, Vol. II, at 86.)

Staff found acceptable the equipment for the facility, the quality assurance and quality control program, and SFEC's plan for purchasing from qualified vendors. As noted above, Staff's request for redundant equipment was agreed to by SFEC, thus allowing Staff to conclude

that the project is likely to exhibit reliability typical of a powerplant of this type. (FSA, Vol. II. p. 86.) The project, when constructed, would likely be as reliable as any other typical plant in the Pacific Gas & Electric Pacific System.

Finally, to address any questions about water supply. SFFC agreed to Condition of Certification RELI-2 which requires demonstration of a fully executed water agreement prior to construction of the facility.

No other party presented evidence on this topic.

## 4. Commission Discussion.

The Commission is satisfied that SFEC's uncontroverted testimony establishes that the proposed facility will be able to achieve a reliability level consistent with industry norms. This is ensured by SFEC's addition of the component redundancies recommended by the Commission Staff. The evidence also establishes that the plant will be as reliable as other powerplants in the PG&E system. There is no evidence in the record that a higher level of reliability is required. The question of water supply is addressed by Condition of Certification RELI-2, requiring a water supply contract prior to the start of construction. Finally, it is clear from the evidence that the project will be built to the latest standards for seismic safety which apply to facilities of this type.

#### FINDINGS AND CONCLUSIONS

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

1. The chief factors influencing powerplant reliability include design, equipment selection and redundancy, quality control, testing, fuel and water supply, plant maintainability, independent back-up steam generation, and resistance to seismic shaking.

- 2. Powerplant reliability is assessed based upon industry practices and comparisons.
- 3. Condition of Certification RELI-1 will ensure adequate redundancies for equipment in the steam cycle of the powerplant.
- 4. No greater level of reliability is required of this facility than for any other facility in the PG&E system.
- 5. SFEC has demonstrated that if the proposed design standards are followed, the project is likely to operate at a reliability level consistent with industry norms.
- 6. The Conditions of Certification will allow the Commission to monitor the project's operating reliability.

#### CONDITIONS OF CERTIFICATION

- RELI-1 Prior to the start of construction, the project owner shall demonstrate that the project will be designed and constructed to incorporate typical levels of equipment redundancy in the facility. This will include, as a minimum:
  - two 100 percent capacity condensate pumps;
  - two 100 percent capacity boiler feedwater pumps;
  - two 60 percent capacity circulating water pumps; and
  - two 100 percent capacity auxiliary cooling water pumps.

Redundancy means that these pieces of equipment are installed, piped, wired, tested, and ready to operate upon the plant operator's command.

<u>Verification</u>: At least 15 days before the start of construction, the project owner shall submit to the CPM a letter detailing the extent to which redundant steam cycle equipment has been incorporated in the project. This letter shall be accompanied, as appropriate, by plot plan(s) and foundation drawing(s) to demonstrate that the above described redundant equipment will be included in the project.

**RELI-2** Prior to the start of construction, the project owner shall demonstrate that a fully executed contract is in place which ensures the project an adequate supply of water for both construction and operation of the project.

<u>Verification</u>: At least 15 days before the start of construction, the project owner shall submit to the CPM a copy of the fully executed contract which ensures a supply of water adequate to meet all plant water needs for construction and operation.

RELI-3 The project owner shall maintain monthly data sets of powerplant reliability and maintenance data, including logs of equipment failure data and operational data for all major equipment, including the gas turbine, steam turbine, generators, heat recovery steam generator, and duct burner, condenser, feedwater system pumps, selective catalytic reduction system, and major pumps; as well as logs of plant and major equipment forced outages, including their causes and durations.

If the project owner provides complete and regular reports of plant reliability to the North American Electric Reliability Council's Generation Availability Data System (NERC GADS), then that reporting shall take the place of the above requirement.

This Condition shall remain in effect until such time as the project owner and the CPM mutually agree that there is no further value in reporting this information to the CPM.

<u>Verification</u>: The project owner shall maintain records of the above information at the project site, and make them available for audit by the CPM at any reasonable time. The project owner shall also submit a summary of the above information to the CPM in each Annual Compliance Report following commercial operation of the plant.

#### **EFFICIENCY**

The overall configuration of a cogeneration facility is inherently more efficient than a separate powerplant and industrial facility. This is because after generating electricity, waste heat from the powerplant is put to beneficial reuse in the production of steam for the thermal host. The Warren-Alquist Act grants certain benefits to powerplants which qualify as cogeneration facilities and sets forth specific standards of energy use which must be met by a project in order to qualify. <sup>156</sup> In addition, the California Environmental Quality Act (CEQA) guidelines (Cal.Code Regs. tit. 14, § 15126(c), Appendix F) require that projects be examined for significant adverse impacts upon energy resources and supplies. The Commission must find both that a project meets the efficiency standards and that the project will not have a significant adverse impact on energy resources.

This project was selected as the winner of a bid process directed by the California Public Utilities Commission (CPUC). One requirement of the CPUC's Request for Bid (PG&E 1993, Vol. 1, p. 5, § V.A) is that the winning project meet the definition of a Qualifying Facility under the federal Public Utility Regulatory Policies Act (PURPA), 157 as determined by the Federal Energy Regulatory Commission (FERC). (18 C.F.R. Part 292.205(a).)

<sup>&</sup>lt;sup>156</sup> Public Resources Code section 25134 defines "cogeneration" as the sequential use of energy for the production of electrical and useful thermal energy where:

<sup>(</sup>a) at least 5 percent of the cogeneration project's total annual energy output shall be in the form of useful thermal energy.

<sup>(</sup>b) useful energy follows power production, the useful annual power output plus one-half the useful annual thermal energy output equals not less than 42.5 percent of any natural gas and oil energy input.

<sup>157</sup> The definition of a Qualifying Facility under PURPA is similar to the language in the preceding footnote.

## 1. Setting.

SFEC proposes to design, develop, construct, and operate a 240 MW cogeneration powerplant located near Hunters Point. The project will consist of a combined cycle cogeneration powerplant comprised of a 140 MW General Electric MS7001FA gas turbine generator with evaporative inlet air cooler, a heat recovery steam generator (HRSG) and duct burner, <sup>158</sup> and a 100 MW steam turbine generator. The powerplant will provide heat energy, in the form of steam turbine extraction steam to the San Francisco Thermal, L.P. via an underground pipeline, for use in district heating and cooling. <sup>159</sup> Alternatively, the project will supply cogeneration steam to an adjacent water reclamation facility which will take secondary treated wastewater from the nearby Southeast Water Pollution Control Plant (WPCP), further purify it, and return it to the WPCP for use as nonpotable treated wastewater. (AFC, p. 1-33.)

## 2. Potential Impacts.

The Commission examined the likelihood that the facility as designed will meet the qualifications of a "FERC Qualifying Facility", as required by the CPUC's request for bid. SFEC presented evidence that the project will operate under the definition of a cogeneration facility. (Pub. Resources Code, § 25134.) SFEC also showed that the project will use fuel in an efficient manner, thereby avoiding any significant adverse impacts to the environment as defined in CEQA. The Commission also reviewed whether the project will cause a substantial increase in demand for existing energy resources or necessitate the development of new energy sources.

<sup>&</sup>lt;sup>158</sup> A heat recovery steam generator, or heat recovery boiler, creates steam from the heat of the exhaust gases of a gas turbine; this steam is then used to power a separate steam turbine generator, effectively utilizing energy which would otherwise be wasted. A duct burner, located between the gas turbine and the HRSG, allows the production of additional steam.

<sup>&</sup>lt;sup>159</sup> SPEC entered an executed steam sale agreement with San Francisco Thermal, L.F. on September 8, 1995. A copy of the agreement was presented at the hearing on September 12, 1995.

## 3. Summary of the Evidence and Proposed Mitigation.

SFEC submitted evidence demonstrating that the project will exceed the requirements of PURPA and the Warren-Alquist Act for both the operating standard and the efficiency standard. (AFC, pp. 1-32 to 1-34; Supplemental Information on Efficiency, 8/26/94; Applicant's Data Response EFF-1, Steam Pipeline Assessment, 1/20/95.) SFEC established that its facility will meet an operating standard of 11 percent, where 5 percent is required; that it will achieve an efficiency standard of 47.6 percent, where 42.5 or 45 percent is required for the state and federal standards respectively. (SFEC Response to Intervenor Data Request dated 2/28/95.)

To ensure a steam host for the facility, SFEC had agreed with a proposed Condition of Certification EFF 1, requiring that prior to commencement of construction, the project owner would entered into a contract on September 8, 1995 to provide sufficient quantities of cogeneration energy to either the San Francisco Department of Public Works or to San Francisco Thermal Ventures. That Condition was satisfied on September 8, 1995, when SFEC executed a Steam Sale Agreement with San Francisco Thermal, L.P. SFEC's evidence also demonstrated that the facility will be designed and constructed in accordance with all applicable laws, ordinances, regulations, and standards. (7/18/95 RT 94 95; AFC, p. 1 33 to 1 24.)

Evidence presented by the Commission-signaff showed that the facility will meet the applicable FERC and State of California operating and efficiency standards for a cogeneration facility. (FSA, Vol. II, pp. 91-102.) Staff's analysis showed that the project will burn fuel at an efficiency of 52.3 percent, which favorably compares to the 32 percent efficiency of the existing PG&E system; this level of efficiency is also roughly equivalent to the 52 percent achievable from the newest, most efficient non-cogeneration electric powerplants. (FSA, Vol. II, p. 98.) Staff determined that the project's configuration and generating equipment represent the most efficient feasible combination to satisfy the project objectives.

Staff concluded, "While the project will consume substantial amounts of energy, it will do so in the most efficient manner practicable. In actual operation, the project will displace

power that would have been generated by other, less efficient plants serving the PG&E system. The end result is thus likely to be a beneficial, rather than adverse, impact on energy resources." (FSA, Vol. II, p. 100:12-15.)

No other parties submitted evidence on this topic.

## 4. Commission Discussion.

The Commission can conclude that, based on the uncontroverted evidence of record, the project will comply with the federal and state definitions of cogeneration efficiency, and will represent an efficient combination of machinery types which will use fuel efficiently to achieve its purposes. Furthermore, the project will comply with all applicable laws, ordinances, regulations, and standards pertaining to powerplant efficiency.

#### FINDINGS AND CONCLUSIONS

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

- 1. The project is a cogeneration project designed to provide heat energy to San Francisco Thermal, L.P.
- 2. The project qualifies as a FERC Qualifying Facility, as required of the winner of the CPUC'S Biennial Resource Plan Update bid process.
- 3. The project is expected to meet the specific standards in the Warren-Alquist Act which define a cogeneration project.
- 4. Fuel chargeable to power for the project will be burned at an efficiency of 52.3 percent which compares favorably to the 32 percent efficiency level of the existing PG&E system, and is also equivalent to the 52 percent achievable from the most efficient non-cogeneration electric powerplants.
- 5. The project will use fuel use efficiently and will not have a significant adverse impact on existing fuel supplies.

- The project configuration (combined cycle cogeneration) and generating equipment chosen appear to represent the most efficient feasible combination to satisfy the project objectives.
- 7. The project will comply with all laws, ordinances, regulations, and standards which pertain to the efficiency of powerplants.

#### CONDITIONS OF CERTIFICATION

EFF-1 Prior to commencement of construction, the project owner shall complete a final signed contract with either the San Francisco Department of Public Works or with San Francisco Thermal Ventures, L.P. to provide cogeneration energy in quantities sufficient to allow the project to qualify as a cogeneration facility.

<u>Verification</u>: Prior to commencing any element of construction, the project owner shall transmit to the California Energy Commission Compliance Project Manager (CPM) a copy of the fully executed contract for supply of cogeneration energy with either of the entities described above.

EFF-2 The facility shall be operated in accordance with the requirements of Title 18, Code of Federal Regulations, Part 292.205(a) and shall operate as a cogeneration facility as defined under Public Resources Code section 25134.

<u>Protocol</u>: The project owner shall maintain monthly records of: 1) fuel consumption in the gas turbine and HRSG duct burner (including startup and shutdown); 2) electrical energy produced; and 3) net thermal use derived from cogeneration steam.

Based upon these records, the project owner shall annually prepare calculations of the operating standard and efficiency standard achieved by the plant, showing how the plant meets the minimum required standards.

<u>Verification</u>: The project owner shall maintain the above records, and the above calculations showing compliance with the required standards, at the project site, and make them available for audit by the CPM at any reasonable time. The project owner shall also submit the above calculations of the operating standard and efficiency standard, showing compliance with the required minimum standards, to the CPM in each Annual Compliance Report following first power generation from the plant.

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## FACILITY DESIGN/GEOLOGIC HAZARDS160

Facility Design includes the civil, electrical, mechanical, and structural engineering elements related to design, construction, and operation of the project and its component systems. Additionally, geologic hazards that may affect project design, construction, and operation must be adequately identified and mitigated.<sup>161</sup>

The evidence of record is based on SFEC's preliminary design proposals; thus, the findings are necessarily limited to whether the project has been described in sufficient detail to provide reasonable assurance it will be constructed in accordance with all applicable laws, ordinances, regulations, and standards. Implementation of the Conditions of Certification will verify the project's compliance with the required legal and engineering standards.

Staff proposed several Conditions of Certification which include review, inspection, and auditing during construction by the appropriate building inspectors as well as peer review of pile foundation design to ensure compliance with building code requirements. Staff also proposed certain modifications to the project design which were accepted by SFEC and included in the Conditions. (FSA, Vol II, pp. 25-26, 47.)

The Intervenors questioned whether SFEC used appropriate vertical acceleration assumptions to account for the specific soil conditions at the site and whether the Importance Factors used in SFEC's plant design calculations were sufficiently conservative to ensure continued project operation in the event of a major earthquake raised concerns about the sufficiency of information regarding the operating/reliability criteria following a major

<sup>&</sup>lt;sup>160</sup> The Commission considered these topics together because the seismic issues related to geologic hazards affect the project's design requirements.

to review whether significant impacts to geological resources, such as disturbing or limiting access to mineral or gem deposits, have been considered and mitigated. There was no evidence of mineral resources or unique scientific geologic features at the site; accordingly, no significant impacts to geologic resources should occur from project construction or operation. (FSA, Vol. I, p. 40; AFC, p. 5.14-22.)

earthquake and the justification for the Importance Factor used in the plant design calculations. (Written Testimony of Gregory Minor, pp. 13-14.) These concerns are discussed in the Summary of Evidence below.

### 1. Setting.

The project site is located on reclaimed land composed of artificial fill over Bay sediments. Elevations across the site vary between 5 and 15 feet above mean lower low water (MLLW) level. (AFC, p. 5.14-12; FSA, Vol. I, p. 36.) The site is not subject to tidal flooding. (AFC, p. 5.14-20.)

The artificial fill (clay, medium dense silty sand, gravel, and construction debris) varies in thickness from 10 to 43 feet with an average thickness of 31 feet. <sup>162</sup> (FSA, Vol. II, p. 31.) Young Bay Mud (soft to medium stiff silty clay) occurs below the fill material and varies in thickness from about 37 to 61 feet. (FSA, Vol. I, p. 36.) For design purposes, the top of the Young Bay Mud is estimated at 31 feet below ground level, corresponding to the average thickness of the artificial fill. (FSA, Vol II, p. 31.)

Bay-Side Sands/Gravel (dense to very dense sand) is present beneath the Young Bay Mud and varies in thickness from about 7 to 18 feet. Old Bay Mud (stiff to very stiff clays and dense to very dense sand) underlies the Bay-Side Sands at about 75 feet below ground. (FSA, Vol. I, p. 36.) Weathered or competent rock (highly to completely weathered serpentine) was identified at between 127 and 163 feet below ground level. (FSA, Vol. II, p. 31.)

<sup>&</sup>lt;sup>160</sup> The artificial fill exhibits a high groundwater table and contains significant quantities of groundwater in hydranlic connection with the Bay and the Islais Creek Channel. Since the facility design does not require any excavations to the depth of the water table, no groundwater inflow occurs and no dewatering is necessary. (AFC, p. 5.14-20.)

<sup>&</sup>lt;sup>163</sup> The Bay-Side Sands and Old Bay Mud provide the bearing support for pile foundations throughout the Bay Area. (FSA, Vol. I, p. 36.)

The site and associated facilities are located in Seismic Zone 4 where the greatest seismic shaking can be expected to occur over the design life of the facilities. (FSA, Vol. II, p. 37.) The closest potential seismic source is the San Andreas Fault Zone located about 8 miles west of the site. The next closest is the Hayward Fault, located about 10 miles to the east. (See, DESIGN FIGURE 1.) The peak horizontal ground acceleration in the firm soils below the soft Young Bay Mud is estimated at 0.43g, which would result from a magnitude 8.0 earthquake on the San Andreas Fault. Peak ground accelerations from various seismic events are shown in DESIGN TABLE 1 below:

DESIGN TABLE I

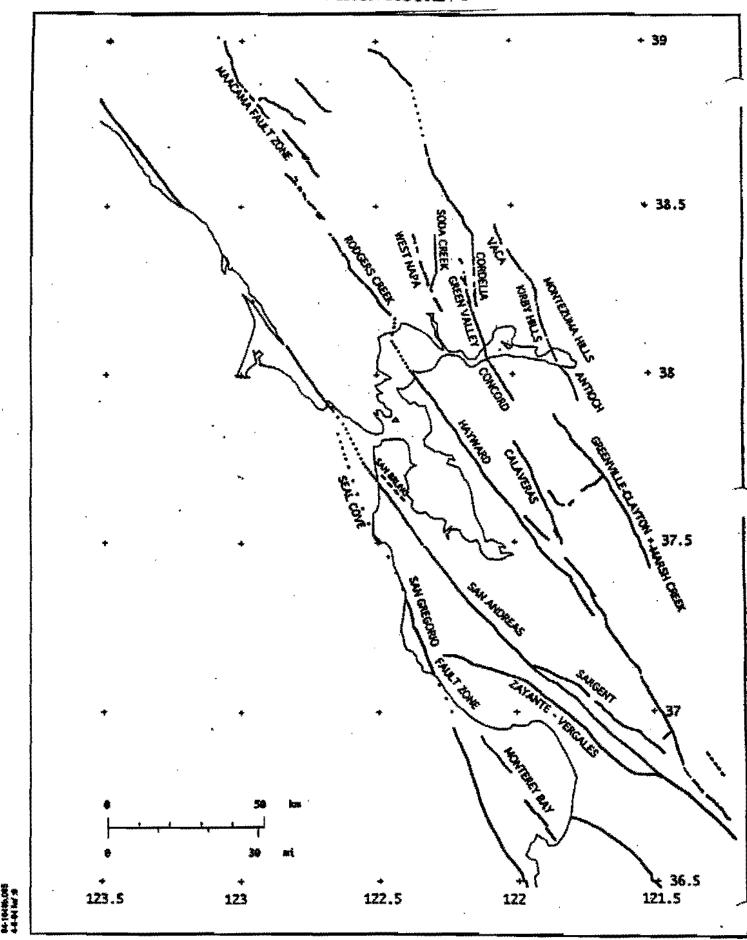
Major Faults Potentially Affecting the Site

FAULT	DISTANCE AND DIRECTION FROM SITE (Miles)	MAXIMUM CREDIBLE EARTHQUAKE (Richter Magnitude) (Mualchin 1992)	PEAK GROUND ACCELERATION AT THE SITE FOR FIRM SOILS BELOW THE SOFT BAY MUD* (Campbell 1981)	
San Gregorio	15 West	7.5	0.2g**	
San Andreas	8 West	8.0	0.43g	
Hayward	10 East	7.5	0.28g	
Calaveras	20 East	7.5	0.16g	

(Source: FSA, Vol. I, p. 38, Geology Table 1 adapted from AFC Table 5.14-1.)

<sup>\*</sup> The Young Bay Mud and artificial fill underlying the sites can be expected to lengthen the period at which maximum ground motion occurs and to amplify the spectral accelerations at longer periods. This condition increases the hazard to structures.

<sup>\*\*</sup> Acceleration of gravity (g) = 32 ft/sec<sup>2</sup> or 980.665 cm/sec<sup>2</sup>



(Source: AFC FIGURE 5.14-1.)

Figure 5.14-1 Principal Quaternary Faulting

### 2. Potential Impacts.

Seismic events may cause structural damage to the facility, including the storage tanks containing hazardous materials, and affect the project's capability to produce power after a major seismic event. SFEC's proposed seismic structural performance criteria are governed by designed to meet the requirements established in the Uniform Building Code (UBC) as incorporated into the California Building Code (CBC). 164 (FSA, Vol. II, p. 40.)

## 3. Summary of Eyidence and Proposed Mitigation.

Accepted Design Practices. SFEC will follow accepted industry standards and design practices in all relevant design and construction activities: site preparation and grading (FSA, Vol. II, p. 32); design and construction of the steam, water, and gas pipelines and the underground transmission line (*Id.*, pp. 32-33); loads, load combinations, and load factors for concrete and steel structures (*Id.*, pp. 38-39); structural design methodology (*Id.*, pp. 43-46); and design criteria for the mechanical and electrical systems. (*Id.*, pp. 47-48).

SFEC will also adopt a Quality Assurance/Quality Control program to ensure the project is designed, procured, fabricated, and installed in accordance with typical power industry standards and applicable law. (Id., p. 48.)

<u>Seismic Design Criteria</u>. The CBC requires the following performance criteria for Seismic Zone 4:

- Resist minor levels of earthquake ground motion without damage;
- Resist moderate levels of earthquake ground motion without structural damage, but with some nonstructural damage; and

Title 24. California Code of Regulations, Part 2. The CBC incorporates the provisions of the model Uniform Building Code (UBC) with modifications specific to California. References to the CBC in this Decision refer to the 1992 CBC, as amended.

• Resist major levels of earthquake ground motion without collapse, but with some structural as well as nonstructural damage. (FSA, Vol. II, p. 40.)

The CBC also requires that regular or irregular structures located on Soil Profile Type S4 be designed using dynamic lateral force procedures. (CBC, § 2333(h)(3)(D).) Sections £1.6.3.8 and £2.6.3.8 of the AFC classify the site soils as S4. However, SFEC used static lateral force procedures in the proposed design of critical project structures. SFEC asserted that the two analysis methods would not produce significantly different results because the equipment enclosure, the CTG, HRSG, and STG toundations, as well as the stack and its foundation are simple structures with direct load paths. (SFEC Data Response to FD-3, Oct. 17, 1994.) According to SFEC, the dynamic analysis would not give a base shear larger than that predicted by the static method. SFEC therefore contended that the static analysis provides a higher amplification factor utilizing the same ground acceleration for both procedures: 155. (Ibid.; 7/13/95-RT-58.)

DESIGN TABLE 2 below lists specific structures and the corresponding equivalent lateral load factors that were proposed by SPEC-will be used to comply with the CBC. The static force procedure requires design calculations to include certain Importance Factors for designated structures. SPEC has added special design features to account for seismic bazard, including utilized an Importance Factor of 1.25 which is higher than the 1.015 required by the CBC for

Section 2733(c) of the CBC identifies site geology and soil characteristics in conjunction with the seismic zones. Soil profile types and site coefficients are established in accordance with Table No. 23-3. Table No. 23-3 provides that Soil Profile Type 34 is a soil profile containing more than 40 feet of soft clay characterized by a shear wave velocity less than 500 feet per second.

for the static lateral force procedure, equation 34.1 of the CBC utilizes a value of C = 2.75 (maximum factor for any structure without regard to soil type). In conjunction with the C value, SFEC assumed a value of I (importance Factor) = 1.25. These parameters translate into an amplification factor of (C)(I) = 3.44. (Data Response to FD-3, Oct. 17, 1994.) By contrast, SFEC claimed that under the dynamic analysis method, the amplification factor is usually in the range of 2.3 to 3.0 for 5% damping. (Ibid.) Thus, SFEC maintained that the static analysis would provide a higher amplification factor utilizing the same gound acceleration (the same factor 2 is utilized in both methods). SFEC bather asserted that the force distribution can be predicted with reasonable accuracy using the static method. (Ibid.)

designing major structures and equipment.<sup>167</sup> This higher Importance Pactor was proposed to offer a degree of added assurance that the project will withstand major seismic events. (7/13/95 RT 64-65) As required by Section 2336(b) [exception 2] of the CBC, the storage tanks containing hazardous materials will be designed SFEC has also designed the facility with an Importance Factor of 1.50, instead of the 1.25 required by the CBC for storage tanks containing hazardous materials. (7/13/95 RT 64-65.) This higher Importance Factor was proposed to offer a significant degree of added assurance that the project will withstand major seismic events.

DESIGN TABLE 2 also shows the lateral forces—coefficients on elements of structures and nonstructural components supported by structures. SFEC applied these coefficients in performing the static analysis Calculations were based on the CBC standard which includes vertical seismic motion as two thirds of the horizontal acceleration. (AFC, p. 5.14-19.)

Table No. 23.1. of the CBC requires an Importance Factor of 1.50 for "Essential Facilities" and 1.13 for "Special Occupancy Structures." Table No. 23-K defines the Occupancy Categories to which the Importance Factors are assigned. "Essential Facilities" are those superares necessary for emergency operations subsequent to a natural disaster. Only standby power generating equipment for essential facilities, such as emergency generating at hospitals, are required to use an importance Factor of 1.50. Structures and equipment to power-generating stations required for communed operation are listed as Special Occupancy Structures which are designed with an importance Factor of 1.15.

SFEC's subjects testified that final design will be based on the static qualitysis since the facility's structures are regular and symmetrical with direct load paths and the prediction of base shear distribution in this case gives conservative results which are not in excess of those predicted by using the dynamic analysis. (7/13/95 RT 47.) As proposed, the project components will be sitting on a concrete slab foundation that always has a positive load acting in the downward direction. If there is a load acting in the upward direction (i.e., vertical thrust achievations), the connectors and anchors are designed to keep the equipment from lifting up from the foundation. (Id. RT 44, 55-56.)

DESIGN TABLE 2

Major Structures and Components

Major Structure/Equipment	Formula	Seismic Zone Factor (Z)	Importance Factor (I)	Horizontal Force Factor (C or C <sub>p</sub> )	Numerical Coefficient (R <sub>w</sub> )
Building* and Equipment Enclosure	CBC 34-1	0.4	1.25	C = 2.75**	8**
Caustic acid and ammonia storage tanks and their foundations and anchorage	CBC 36-1	0.4	1.50	$C_p = 0.75$	N.A.
Foundations for steam and combustion turbine/generator and wet surface condenser	CBC 34-1	0.4	1.25	C = 2.75	4
Foundation for heat recovery steam generator (HRSG)	CBC 34-1	0.4	1.25	C = 2.75	4
HRSG exhaust stack, its foundation and anchorage	A LOS ACCOMPANIES OF THE PROPERTY OF THE PROPE	0.4	1.25	C = 2.75*	4

(Source: Adopted From AFC, Appen. B, Table B-1; FSA, Design Table 2, Vol. I, p. 41.

While the structures are designed to withstand frequently occurring earthquakes with the response stresses within yield point<sup>169</sup> with minor damage, the structures are also designed and detailed to survive major earthquakes by ensuring that the members and connections are able to resist the most severe cyclic seismic formations beyond yield point without significant loss of their load carrying capacities or structural functions. (AFC, Appendix B, p. 26.)

<sup>\*\*</sup> Value is approximate and may be revised during detailed design to reflect the final configuration.

<sup>\*</sup> The Administration Building will be designed with an Importance Factor of 1.0.

<sup>&</sup>quot;Yield point" refers to the design strength of materials such as concrete, steel, and steel used for concrete reinforcement that are manufactured in accordance with standard engineering calculations to ensure the materials will withstand stress from flexure and chear movements due to reismic events.

Major structures will be supported on concrete pile foundations to withstand the effects of static and seismically induced forces and settlements on structures. Staff advised that the adverse soil conditions at the site require special design features to mitigate the influence of Young Bay Mud during a seismic event.<sup>170</sup> (FSA, Vol. II, pp. 32-34.) Based on Staff's recommendation, SFEC developed a Pile Design Review Process to ensure that the final design of the pile foundations will satisfactorily account for the adverse soil conditions and also comply with applicable standards and codes.<sup>171</sup> (Ibid.)

Foundation design must account for settlement of the Young Bay Mud as well as structural settlement. <sup>172</sup> (Id., p. 33.) To mitigate against excessive settlement, Staff recommended that use of spread footings be limited to structures that can tolerate up to six to eight inches of settlement. Mat foundations, with relatively large areas, may also be subject to excessive total and differential settlement. In these cases, Staff recommended that the foundation and structure be lowered to reduce soil stress and settlement. (Ibid.)

Concrete pile foundations used to support the vertical and lateral loads caused by the project's major structures/equipment will extend into the Bay-Side Sands and Old Bay Mud to develop adequate allowable skin friction and end bearing in the event of seismic shaking.<sup>173</sup>

The site factor for soil type S4 is 2.0; however, since the structural design will generally use the maximum CBC-required C factor of 2.75 for the static lateral force procedure, SFEC maintained that it should not be necessary to adjust force levels for the local soil conditions. (Data Response to FD-8, Feb. 14, 1995.) SFEC also maintained that CBC requirements for Seismic Zone 4 are sufficient but if the parties agree to an acceleration value higher than the 0.40g used in the CBC, it is acceptable to substitute the higher value in place of the Z coefficient in the seismic lateral force equation. (Ibid.)

<sup>&</sup>lt;sup>172</sup> Condition STRUC-5 provides a peer review process for experts to evaluate final pile design. Public participation in the peer review process will be available. (7/13/95 RT 128-129.)

<sup>&</sup>lt;sup>172</sup> Surface settlement due to compression of the Young Bay Mud is still ongoing. Although 95 percent consolidation of the Young Bay Mud has occurred and 100 percent is expected over the life of the project, placement of new fill for construction could cause additional settling. Therefore, the final plant layout and selection of the plant grade will be designed to minimize the placement of additional fill. (FSA, Vol. II, p. 31.)

<sup>175</sup> SPEC assumed that the piles wouldare not expected to extend down to bedrock since they will reach competent materials before bedrock depth. The piles will follow deformations of the Bay Muds and thus will experience the same seismic forces as the muds. The Bay Muds filter out high frequency seismic waves, which

Downdrag forces resulting from consolidation of the Young Bay Mud and seismically-induced settlement of fill materials will be included in the final pile designs. (FSA, Vol. II, p. 35.)

Prior to final design, a series of indicator test piles will be driven at various locations on the site to estimate capacities, verify structural integrity, and calculate potential settlement of the piles. The expert testimony indicates that settlement of piles will be negligible. (*Ibid.*)

Intervenors' Concerns. The Intervenors raised concerns regarding SFEC's seismic calculations. In particular, they argued that SFEC failed to account for the vertical seismic forces that occur with thrust faults, such as those exhibited in the Northridge earthquake in Los Angeles, and that the public needs to be reassured that the project design is adequate by addressing the Northridge lessons. (Written Testimony of Greg Minor, pp. 11-12.)

The Intervenors asserted: 1) that vertical accelerations are not mentioned in the FSA; 2) the analysis failed to consider the effects of vertical forces being transmitted from bedrock to the base of the foundation by the pilings; 174 and 3) although the CBC calls for the vertical accelerations to be scaled from the horizontal accelerations by a factor of two-thirds, it also provides that alternative factors may be used when substantiated by site-specific data. 175 (Ibid.) The Intervenors therefore argued that SFEC should perform a site-specific design analysis given the potential for major cartiquake activity at the site.

will reduce impacts to the project foundations. (7/13/95 RT 76-78.) However, in the event of an earthquake, the Bay Mud and artificial fill will lengthen the period at which maximum ground motion occurs and amplify the spectral accelerations at longer periods. (AFC, p. 5.14-20.) This expected motion has been verified through earthquake studies of the San Francisco area that recorded ground motion on artificial fill sites. (AFC, p. 5.14-7.)

The Intervenors disputed SPEC's assertion that the piles will not extend to bedrock because that data cannot be determined until the Pile Design Review Process has been completed.

The AFC at p. 5.14-19 states that vertical motions are taken as two-thirds of horizontal motion under the UBC. SPEC's witnesses testified that the two-thirds ratio was assumed in the static lateral force procedure (7/13/95 RT 35-39.) Testimony also indicated that the two-thirds ratio applies in a dynamic analysis. (Id. RT 51-52:1-10.) The CBC specifically provides that the two-thirds ratio shall be unifized for the dynamic force analysis but the CBC does not specify a paragular ratio for the static lateral force procedure. (CBC, § 2335(bH5).)

In rebuttal, SFEC presented evidence showing that the fault structure in the San Francisco Bay area produces greater horizontal acceleration than the fault structure in the Los Angeles Basin. The faults in the Bay Area are strike slip faults that are typically almost vertical and move horizontally relative to one another. (7/13/95 RT 37.) (See, DESIGN TABLE 3.) By contrast, the faults in Los Angeles, where the Northridge earthquake was located, tend to be thrust faults that produce greater vertical motion. (7/13/95 RT 37.) With the exception of three data stations, the data from the Northridge earthquake revealed that the vertical acceleration was still less than two-thirds the horizontal acceleration. (Id., p. 35.) SFEC therefore argued that even though comparisons between the Los Angeles Basin faults and the Bay Area faults are inappropriate, the same law of physics applies, i.e., vertical accelerations tend to be two-thirds of the horizontal accelerations. (Id., pp. 28-29, 32-36.)

According to SFEC's expert testimony, the waves in a horizontal direction produce "shearing forces" which are the main cause of damage to buildings due to their "pulling apart" motion while vertical forces are more like pushup motions. (*Id.*, p. 32.) Moreover, vertical waves do not affect saturated soil such as that found is-beneath the site; although the effect of vertical waves will not be zero, these forces will be dampened by the soil so that potential impact will be very small.<sup>178</sup> (*Id.*, pp. 78-80, 84.)

<sup>&</sup>lt;sup>176</sup> While the 1989 Loma Prieta earthquake exhibited a vertical thrust component, it is the only seismic zone in the greater Bay Area where thrust faults have been identified; ground movement was minor compared with the horizontal component of the San Andreas fault which caused 30 feet of movement during the 1906 earthquake. (7/13/95 RT 81-82.)

<sup>177</sup> The U.S. Geologic Survey discussed the data in "Strong Ground Motion Generated by the Northridge Earthquake of January 17, 1994: Preliminary Implications for Site-Dependent Design Spectra," Roger D. Borsherdt, USGS, April, 1994. (Testimony of Greg Minor, fn. 15; 7/13/95 RT 34.) SFEC contended the peculiar data points which exceeded the peak vertical accelerations cannot be used for standardized rulings because they do not represent typical trends. (7/13/95 RT 36.) The Intervenors argued that in the absence of consensus in the scientific community or ratification by an appropriate governmental agency, SFEC's position must be viewed as speculative. (Intervenors' Nov. 27, 1995 Community, p. 109.)

<sup>&</sup>lt;sup>176</sup> SFEC's expert witness on geotechnical earthquake engineering, Ignacio Aranga, co-authored a seminal study on the effects of vertical acceleration on saturated soils. (7/13/95 RT 84:7-23; 85:1-5.)

## **DESIGN TABLE 3**

Table 5.14-1 Principal Fault Sources and MCE Ground Motion at Hunters Point

Fault	Турс	Activity	MCE	Distance km	. PGAs
Saal Cove	Normal/ oblique slip?	Active (creep)	6.9	21	0.18
San Gregorio Fault Zone	Strike alip	Active	7.25	26	0.18
Rodgers Creek	Strike slip	Active	7	48	0.09
Maacama Fault Zons	Strike slip	Active	7.25	·91	0.05
West Napa .		Active	6.5	50	- 0.06
Soda Creek		Potentially active	6.25	58	0.05
Green Valley	Strike slip	Active (creep)	6.75	42	0.09
Cordelia	Strike slip	Potentially active	6.5	57	0.05
Concord	Strike slip	Active (creep)	6.5	39	9.08
Kirby Hills/ Montecoma Hills/ Vaca		Potentially active	7	60 .	0.07
Antioch		Potentially active	6.75	58	0.06
Greenville/Clayton/ Marsh Creek	Strike slip	Active	7,25	45	0.11
Calaveras	Strike slip	Active	7.5	. 33	0.16
Hayward	Strike slip	Active	7.5	17	0.28
Sargent	Reverse oblique	Active	6.75	75	0.05
San Andreas	Strike elip	Active	8	13	0.43
San Brono		Potentially active	6.6	9	0.29
Zayante/Vergales	Reverse oblique	Potentially active	7.25	63	0.08
Monterey Bay	.Strike slip?	Active	6.5	92	0.03

<sup>\*</sup> maximum credible earthquake ..

peak ground accelerations

SFEC's final design will be based on the CBC's static analysis rather than the alternative dynamic analysis favored by the Intervenors. Since the facility's structures are simple and symmetrical with direct load paths as compared with complex, irregular, multi-storied buildings that require a dynamic analysis, use of the static analysis includes the necessary conservative assumptions. (7/13/95 RT 42-43.) At the hearing, the Intervenors' expert conceded that a static analysis in this case is appropriately conservative. (7/13/95 RT 156:1-3.)

The key concern advanced by the Intervenors, however, was whether the project design will adequately ensure the project's ability to produce electricity after a major earthquake. The Intervenors assumed that the project should be categorized as an "Essential Facility" as defined in Table No. 23-K of the CBC. The Intervenors therefore maintained that project reliability depends on raising the Importance Factor to 1.50 for overall facility design as required by Table No. 23-L of the CBC. SFEC asserted that compliance with the CBC addresses the reliability issue:

We would expect that any powerplant or any facility categorized in the Uniform Building Code as being required to be available after an earthquake, would be available after an earthquake. And that is the reason we go to the Building Code to find the applicable criteria for design. (7/13/95 RT 87:14-18.)

Moreover, SFEC contended that the facility only needs to be designed to be as reliable as any other generating facility on the PG&E system. 179 (7/13/95 RT 87) The Intervenors presented no evidence to establish that the project is required to be available for emergency operations subsequent to an earthquake. Moreover, neither SFEC nor PG&E have designated the project as "standby power-generating equipment for essential facilities" under Table No 23-K. Staff also agreed with SFEC that there are no specific reliability requirements for this project

<sup>179</sup> SFEC's design requires the concrete foundation to resist a potential Richter 8 seismic event as delineated in the CBC. (7/13/95 RT 106.) The CBC assumes a 10 percent probability of exceeding occurrence during the next in 50 years, which calculates out to the equivalent of 475 years recurrence. Since the facility has a life of 25 years, the probability is proportionally less.—(Id., p. 41.)

that exceed those of any other powerplants connected to the utility grid system. (7/13/95 RT 116-117.)

### 4. <u>Commission Discussion</u>.

The Intervenors' dispute with the seismic design criteria used in this case appears to challenge well established engineering standards that apply to all structural engineering in the Bay Area. However, the Intervenors failed to present compelling evidence that other presumptions or standards should be applied.

SFEC's evidence persuasively established that reliance on the scientific requirements established in the CBC, including the two thirds ratio for horizontal and vertical scismic accelerations, is state of the art engineering practice. Moreover, SFEC's witnesses were familiar with the United States Geologic Survey (USGS) data on the Northridge earthquake and explained the discrepancies regarding the two thirds ratio as aberrations, rather than rules of scismic behavior as the Intervenors proposed. (7/13/95 RT 29:7-13; 35-39.) The Intervenors failed to establish their position with credible scientific data. Therefore, the weight of the evidence indicates that the seismic behavior of the Northridge event does not appear relevant to earthquake science in the Bay Aron.

The Intervenors also argued that SFEC should apply site specific design analysis rather than relying on the standard CBC formulas. Section 2335(h)(2)(D) of the CBC states that the dynamic lateral force procedures of Section 2335 shall be used for all ... structures, including the following:

<sup>180</sup> A more detailed discussion of project reliability is found in the RELIABILITY section of this Decision.

<sup>187</sup> Contrary to the Intervenors' ascertion, the CBC only requires a "site specific" analysis to justify the use of alternative factors: "[a]ternative factors may be used when substantiated by site specific data." (CBC, § 2335(b).) Accordingly, a site specific analysis is not required unless a factor different from the specified 2/3 of horizontal acceleration is used in the calculation.

Structures, regular or irregular, except those defined in Section 2333(b)(2)(C) and E. located in Soil Profile Type S4 which have a period greater than 0.5 second as calculated in accordance with Method B in Section 2334(b)(2)(B). The analysis shall include the effects of the soils at the site and shall conform to Section 2335(b)(4).

The SFEC site is located on Soil Type S4. Therefore, to comply with Section 2333(h)(3)(l)), all structures, except those defined in Sections 2333(h)(2)(C) and (2)(E), which have a period greater than 0.5 second will require the application of dynamic lateral force procedures. The exceptions refer to irregular structures with flexible diaphragms not more than three stories high or 30 feet tall, and for wood-frame structures with wood shear walls and wood diaphragms. Neither of these exceptions is applicable to the types of structures and equipment associated with the SFEC project. Also notable is the modification in the CBC to "a period greater than 0.5 second," which demonstrates that CBC requirements are more stringent than those of the UBC.

The dynamic lateral force procedures provide a normalized response spectrum for regular structures but require that "a site-specific response spectrum based on the geologic, tectonic, seismologic, and soil characteristics associated with the specific site ... shall be used for irregular structures and for all structures located on Soil Profile Type S4." The Commission therefore concludes that the Intervenors' request for a site-specific design analysis is persuasive based on the clear direction of the CBC. Accordingly, the Commission has included Condition STRUC-6 to require SPEC to use the Dynamic Lateral Force Procedures and to conduct a site-specific analysis in the development of final design plans as required by the relevant provisions of the CBC.

The Commission potes that Section 2333(j)(1) of the CBC permits the use of "afternative lateral force procedures using rational analyses based on well-established principles of mechanics, in lieu of those prescribed in these provisions [dynamic lateral force procedures], "

The Commission believes an alternative method would be acceptable, provided that the alternative method is approved by the appropriate Chief Building Officer (CBO). The dynamic

analysis is required to verify that the proposed static lateral force procedure results in a conservative design for all structures. In the event that the static analysis results in a more conservative design than that dictated by a dynamic analysis or its approved alternative, the more conservative static procedure shall be used as the basis for design. Conversely, where the dynamic analysis or its alternative results in a more conservative design than the results of the static lateral force procedure, the dynamic analysis or its alternative shall govern.

However, the evidence is clear that SFEC will design the project foundations and structures to accommodate the specific soil conditions underlying the site. (7/13/95 RT 40-41.) Since the foundation piles will not extend to bedrock, the Intervenors' concerns that vertical forces could be transmitted from the bedrock through the piles is unfounded because saturated soils are not affected by pushup or P waves characteristic of vertical acceleration. (7/13/95 RT 76.5-25; 77-80; 84:7-17.) Moreover, the use of the Importance Factor of 1.25 rather than the standard 1.0 domonstrates that site specific conditions have been applied in the design process.

The appropriate ratio for calculating vertical and horizontal accelerations will be determined in the final design plans pursuant to Condition STRUC-6. As noted above, the static lateral force procedure does not specify the iterizontal/vertical acceleration ratio, while the dynamic procedure states that the vertical component of ground motion may be defined by scaling corresponding horizontal accelerations by a factor of two-thirds. (CBC, § 2335((b)(5).) Moreover, alternative factors may be used when substantiated by site-specific data. (Ibid.) Therefore, the Commission is not persuaded that the testimony presented by any party regarding the two-thirds ratio sufficiently addressed the requirements of the CBC. SFEC argued that its static lateral force procedure assumed the two-thirds ratio, intervenors argued that SFEC failed to account for the "Northridge" lessons regarding the potential for greater vertical thrusts in the event of a major earthquake in the Bay Area. The Commission concludes that a site-specific analysis is required to establish the appropriate ratio under all the carcumstances relevant to the site.

The Intervenors' contention that the final project design should include an importance Factor of 1.50 for all structures shall be deemed most because. I) the dynamic lateral force

procedures do not rely on the Importance Factors established in Table No. 23-L; and 2) the facility is not designated as an "Essential Facility" as defined in Table No. 23-K. Finally, nNo evidence was presented to establish that the reliability requirements for the proposed facility should exceed those of any other powerplants in the PG&E system. To the contrary, the evidence conclusively indicates that compliance with CBC requirements for electric powerplants in Seismic Zone 4 provides adequate seismic reliability. [182] (7/13/95 RT 85-87.) Hence, the Intervenors failed to prove that reliability issues require major structures of the project (except for storage tanks) to be designed with an Importance Factor of 1.50.

The Intervenors requested continued public participation in the design process, in particular, the peer review pile design process. As a matter of Commission policy, public participation is always encouraged.—Public involvement in the project's final design planning stages will be part of the process through coordinated with the Bayview Hunters Point Clean Environment Coalition.

The following modifications recommended by Staff have been included in the Conditions of Certification:

- Design specifications for the combustion turbine generator foundation must specify the loading combinations with load factor(s) that will be used in the final design.
- Include load combinations specified in CBC section 2411 (equations 11-4, 11-5, and 11-6) when designing concrete structures.
- Include load combinations specified in CBC sections 2710(d)2 and 2710(e) when designing steel structures.

In its January 18, 1996 letter to the Commutee, the Intervenous responded to Staff's December 29, 1995 memo which recommended that dynamic analysis be applied in this case. The Intervenous agreed with Staff. Since application of the dynamic tateral force procedure is expected to indicate the most conservative account design for the project, the Compussion finds that the project will meet the most stringent requirements for seisbac reliability under CBC standards.

- Storage and containment structures for sulfuric acid, sodium hypochlorite, and aqueous ammonia must be designed with an Importance Factor I=1.50 to satisfy the Hazardous Materials Management requirements.
- During pile driving and in service, pile splices must be designed to develop the required strength in compression, bending, tension, shear, and torsion at the point of splice. These splices should be located to minimize these requirements. Welded splice joints must consider the effects of heat and subsequent splitting and spalling near the splice.
- If doweled splices using cement or epoxy grout are used, adequate curing must be attained before the driving operations.
- Care must be taken to avoid a discontinuity at the point of splice as this will result in tensile destruction of the pile. The use of epoxy grout and a doweled splice accomplishes this continuity if properly installed.

With these modifications, the evidence demonstrates that the project as described in the record can be designed, constructed, and operated in conformance with all applicable law and good engineering practice. Implementation of the Conditions of Certification set forth below ensure that the project will comply with the relevant standards.

### FINDINGS AND CONCLUSIONS

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

- 1. The evidence is based on SFEC's preliminary design proposals.
- SFEC will follow accepted industry standards and design practices in all relevant design and construction activities: site preparation; underground transmission lines and steam, water, and gas pipelines; loads, load combinations, and load factors for concrete and steel structures; structural design; and mechanical and electrical systems.
- SFEC will adopt a Quality Assurance/Quality Control Program to ensure the project is designed, procured, fabricated, and installed in accordance with typical power industry standards and applicable law.

- 4. Seismic events may cause structural damage to the facility, including the storage tanks containing hazardous materials, and affect the project's capability to produce power after a major earthquake.
- 5. Concrete pile foundations will be designed to mitigate adverse soil conditions due to settlement of Young Bay Mud or seismic events. A Peer review Pile Design Process, including members of the public, will be implemented to finalize pile designs.
- 6. Seismic faults in the San Francisco Bay Area are predominantly strike slip faults that move horizontally and are not likely to behave in the same manner as the thrust faults in the Los Angeles Basin which have more vertical movement; thus, the 1989 Northridge earthquake data have not been scientifically confirmed to represent are not indicative of likely seismic events in the Bay Area.
- 7. The California Building Code (CBC) requires that regular or irregular structures located on Soil Profile Type S4 be designed using dynamic lateral force procedures. (CBC, § 2333(h)(3)(D).) SFEC's geotechnical studies classify the site soils as Soil Profile Type S4.
- 78. SFFC utilized a static lateral force procedure for its preliminary design plans for critical project structures based on its assertion that application of the dynamic lateral force procedures would not provide more conservative results reliance on the California Building Code which factors vertical seismic acceleration as two-thirds of horizontal seismic movement, is appropriate engineering practice.
- 8. SFEC will account for site specific conditions in the peer review pile design process and the use of Importance Factor of 1.25 (1.50 for hazardous materials storage tanks) instead of the CBC standard of 1.0 (1.25 for storage tanks)
- 9 Prior to submittal of its final design plans, SFEC shall employ the dynamic lateral force procedures described in Section 2335 of the CBC (including a site-specific response spectrum) to conclusively establish whether the static analysis provides more conservative results; SFEC may utilize an alternative procedure in accordance with Section 2333(j) of the CBC upon approval of the Chief Building Officer.
- In calculating potential seismic activity at the site. SFEC shall comply with Section 2335 of the CBC (Dynamic Lateral Force Procedures), i.e., the vertical component of ground motion may be defined by scaling corresponding horizontal accelerations by a factor of two thirds, alternative factors may be used when substantiated by site-specific data.
- The Importance Factors identified in Table No. 23-L of the CBC apply to the static lateral force procedure. SPEC's use of an importance Factor of 1.25 for major structures in its static analysis adds a degree of conservatism since it exceeds the requirement of 1 = 1.15 for Special Occupancy Structures; SPEC's reliance on an

Importance Factor of 1.50 for storage tanks containing hazardous materials complies with the CBC.

- The project has not been designated as an "Essential Facility" as defined in Table No. 23-K of the CBC; accordingly the reliability requirements for the proposed facility do not exceed those of any other powerplants in the PG&E system and therefore the Importance Factor of 1.25 is more than adequate to ensure the project's ability to produce electricity after a major earthquake.
- 130. There is no evidence of mineral resources or unique scientific geologic features at the site; accordingly, no significant impacts to geologic resources should occur from project construction or operation.
- 141. Implementation of the Conditions of Certification set forth below will ensure the project is designed and constructed to conform with applicable law relating to its civil, electrical, mechanical, and structural engineering elements.
- 152. Review of the available information in the evidence of record establishes that the proposed project and associated facilities can be designed and constructed in compliance with all applicable laws, ordinances, regulations, and standards as identified in APPENDIX: LORS in this Decision.

### CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall furnish to the California Energy Commission Compliance Project Manager (CPM) and to the Chief Building Official (CBO)<sup>183</sup> a schedule of structural plan submittals, a Drawing List, and a Specifications List. The schedule shall contain a description and list of proposed submittal packages for structural plans, calculations, and specifications for major structures and equipment (below). The project owner shall furnish monthly schedule updates.

### Major Structures

Combustion (Gas) Turbine Generator (CTG) Pedestal and Foundation Steam Turbine Generator (STG) Pedestal and Foundation CTG/STG Enclosure Structure Heat Recovery Steam Generator (HRSG) Structure and Foundation Exhaust Stack and Foundation Field-Fabricated Tanks and Foundations Shop-Fabricated Tanks and Foundations

<sup>&</sup>lt;sup>183</sup> CBO is the City or County Chief Building Official, his or her representative, or the Energy Commission's duly appointed representative.

Condenser Support Structure and Foundations
Plume Abated Cooling Support Structure and Foundations
Natural Gas Compressor Structure and Foundations
Equipment Foundations (compressors, pumps, transformers)

## Major Equipment

CTG/STG
HRSG
CTG Inlet Filter Structure
Shop-Fabricated Pressure Vessels
STG Condenser
Plume Abated Cooling Tower
Natural Gas Compressor
Main Step-up Transformers
Boiler Feedwater Pumps
Switchgear

<u>Verification</u>: At least 60 days (or a lesser number of days mutually agreeable to the project owner and the CBO)<sup>184</sup> prior to the start of the first increment of new construction (typically defined as site preparation), the project owner shall submit the schedule, Drawing List, and Specifications List to the CBO and to the CPM. The project owner shall provide schedule updates in the Monthly Compliance Report.

GEN-2 The project owner shall make payments to the CBO equivalent to the fees listed in the 1992 California Building Code (CBC), Chapter 3, section 304 and Table No. 3-A; Chapter 70, section 7007 and Table No. 70-A and 70-B (or the appropriate tables of the relevant section of the currently adopted California Building Code (CBC)) for plan review and permits. If the local agency has adjusted the CBC fees by Code or Ordinance, the project owner shall pay the adjusted fees.

<u>Verification</u>: The project owner shall make the required payments to the CBO at the time of submittal of the plans, calculations, specifications, and the soils report. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-3 Prior to the start of site preparation, the project owner shall assign at least one of each of the following qualified engineers to the project, all of whom must be registered in California: A) a resident construction engineer; B) a responsible civil

<sup>184</sup> Unless specifically stated otherwise, this phrase applies to all verifications that have a time requirement.

engineer; C) a registered geotechnical engineer; D) a responsible design engineer who is either a structural engineer, or a civil engineer who is fully competent and proficient in the design of powerplant structures and equipment supports; E) a responsible mechanical engineer; and, F) a responsible electrical engineer.

If any engineer 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 approval.

## Protocol A: The resident construction engineer shall:

- monitor construction progress to ensure compliance with the design intent;
- assure that the construction of all the facilities complies with the civil work construction criteria, all applicable laws, ordinances, regulations, and standards, approved plans and specifications; and
- assure the conformance of all structural erection with all applicable laws, ordinances, regulations, and standards, approved plans, and specifications.

The resident construction engineer shall have authority to halt construction and to require changes or remedial work if the work does not conform to the applicable requirements.

# <u>Protocol B</u>: The responsible civil engineer shall:

- design (or be responsible for design), stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities to comply with the Commission's Decision. At a minimum, these include: grading, site preparation, excavation and compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and
- provide consultation to the resident construction engineer during the construction phase of the project and recommend changes in the design of the civil works facilities and changes in the construction procedures.

The tasks performed by the responsible engineer may be divided between two or more civil engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, related civil works, civil structures, transmission line civil works). No segment of the project shall have more than one responsible engineer.

## <u>Protocol C</u>: The geotechnical engineer shall:

- review all the engineering geology reports, and prepare a final soils grading report;
- prepare the soils engineering reports required by Chapter 70 of the 1992 CBC (or the relevant sections of the currently adopted CBC);
- be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in Chapter 70 of the 1992 CBC (or the relevant sections of the currently adopted CBC);
- recommend field changes to the responsible civil engineer and to the resident construction engineer;
- review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and
- prepare reports on foundation investigation to comply with Chapter 29 of the 1992 CBC (or the relevant section of the currently adopted CBC).

This civil 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.

### <u>Protocol D</u>: The responsible design engineer shall:

- be directly responsible for the design of the proposed structures and equipment supports;
- provide consultation to the resident construction engineer during design and construction of the project;
- monitor construction progress to ensure compliance with the design intent;
- evaluate and recommend necessary changes in design; and
- prepare and sign all major building plans, specifications and calculations.

The tasks performed by the responsible design engineer may be divided between two or more civil or structural engineers as long as each civil or structural engineer is responsible for a

particular segment of the project. No segment of the project shall have more than one responsible design engineer.

# <u>Protocol E</u>: The responsible mechanical engineer shall:

• be responsible for, and sign and stamp a statement with each mechanical submittal to the CBO that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Commission Decision.

The tasks performed by the responsible mechanical engineer may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project. No segment of the project shall have more than one responsible mechanical engineer.

# <u>Protocol F</u>: The responsible electrical engineer shall:

- be responsible for the electrical design of the project; and
- sign and stamp all electrical design drawings, plans, specifications, and calculations.

The tasks performed by the electrical engineer may be divided between two or more engineers, as long as each electrical engineer is responsible for a particular segment of the project. No segment of the project shall have more than one responsible electrical engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

<u>Verification</u>: At least 30 days prior to the start of site preparation, the project owner shall submit to the CBO for review and approval, the name(s), qualifications and registration numbers of all the engineers listed in this Condition. The project owner shall also submit to the CPM a copy of the CBO approval of the qualifications of all registered engineers in the Monthly Compliance Report.

If any engineer is subsequently reassigned or replaced, the project owner has 10 days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for approval. The project owner shall notify the CPM of the CBO's approvals of the engineers within 5 days of the approval.

GEN-4 Prior to the start of the first activity requiring special inspection, the project owner shall assign to the project at least one construction engineer who shall be responsible for the special and continuous inspections required by the 1992 CBC section 306 (or the relevant section of the currently adopted CBC).

Welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels) shall be inspected by a certified weld inspector (certified AWS and/or ASME as applicable).

<u>Verification</u>: At least 14 days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the construction engineer(s), certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all construction engineers and special inspectors in the next Monthly Compliance Report.

If the construction engineer, certified weld inspector, or other certified special inspector is subsequently replaced or re-assigned, the project owner has 10 days in which to submit the name(s) and qualifications of the newly assigned individual(s) to the CBO for approval. The project owner shall notify the CPM of the CBO's approvals of the construction engineer, certified weld inspector, or other certified special inspector within 5 days of the approval.

The project owner shall obtain the CBO's final approval of any completed work. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform with the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings.

<u>Verification</u>: Within 15 days of the completion of any work, the project owner's responsible design engineer shall submit to the CBO, with a copy to the CPM, (a) written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans.

GEN-6 The project owner shall keep the CBO informed regarding the status of construction. If a discrepancy is discovered during construction, the project owner shall, within 5 days, prepare and submit a non-conformance report (NCR) describing the nature of the discrepancies to the CBO. The NCR shall reference this Condition of Certification and applicable sections of the CBC. The project owner shall submit a periodic construction progress report to the CBO according to the reporting frequency required by the CBO.

<u>Verification</u>: A list of the NCR for the reporting month shall also be included in the next Monthly Compliance Report.

GEN-7 The project owner shall design, construct, and inspect the project in accordance with applicable design criteria (including the use of an importance factor of 1.5 for tanks and vessels containing trazardous materials) identified herein and with the legally required industry standards.

<u>Verification</u>: Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible engineers, attesting that all design, construction, inspection, and installation requirements of all applicable laws, ordinances, regulations, and standards, and the Commission Decision have been met in the areas of civil, structural, mechanical, and electrical engineering.

The project owner shall provide the CPM a copy of the Certificate of Occupancy in the next Monthly Compliance Report after receipt of the permit from the CBO.

GEO-1 Prior to the start of construction, the project owner shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the CBC, section 7006(d), 1992 edition. The certified engineering geologist(s) assigned must be approved by the California Energy CPM.

<u>Verification</u>: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for approval the name(s) and license number(s) of the certified engineering geologist(s) assigned to the project. The submittal should include a statement that CPM approval is needed. The CPM will approve or disapprove the engineering geologist(s) and will notify the project owner of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) is subsequently replaced, the project owner shall submit for approval the name(s) and license number(s) of the newly assigned individual to the CPM. The CPM will approve or disapprove the engineering geologist(s) and will notify the project owner of the findings within 15 days of receipt of the notice of personnel change.

- GEO-2 The assigned engineering geologist shall carry out the duties required by CBC (1992 or most recently adopted edition) sections 7006(d) and 7015(a)3. Those duties are:
  - Prepare the <u>Engineering Geology Report</u>. This report shall accompany the Plans and Specifications when applying to the CBO for the grading permit.
  - Monitor geologic conditions during construction.
  - Prepare the Final Geologic Report.

<u>Protocol</u>: The <u>Engineering Geology Report</u> required by CBC section 7006(d) shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy, for the intended use, of the site as affected by geologic factors.

The <u>Final Geologic Report</u> to be completed after completion of grading, as required by CBC section 7015(a)3, shall contain: a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. Engineering geologists shall submit a statement that, to the best of their knowledge, the work within their area of responsibility is in accordance with the approved <u>Engineering Geology Report</u> and applicable provisions of the CBC.

<u>Verification</u>: (a) Within 15 days of submittal of the application(s) for grading permit(s) to the CBO, other designated authority, or the Commission's duly authorized representative, the project owner shall submit a signed statement to the CPM stating that the <u>Engineering Geology Report</u> has been submitted to the CBO as a supplement to the plans and specifications, and that the recommendations contained in the report are incorporated into the plans and specifications; and (b) Within 90 days following completion of the final grading, the project owner shall submit copies of the <u>Final Geologic Report</u> required by CBC section 7015(a)(3) to the CPM and the CBO.

- CIVIL-1 Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:
  - the design of proposed drainage structures, and the grading plan;
  - an erosion and sedimentation control plan (combined grading plan);
  - the related calculations and specifications, signed and stamped by the responsible civil engineer; and
  - the soils report as required by Chapter 70 of the 1992 CBC (or the relevant section of the currently adopted CBC).

<u>Verification</u>: At least 14 days prior to the start of site grading, the project owner shall submit the documents described above to the CBO for review and approval. Within 14 days of the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident construction engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the geotechnical engineer identifies unforeseen adverse geologic conditions. The project owner shall prepare and submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected areas.

<u>Verification</u>: The project owner shall provide to the CPM a copy of the CBO's approval to resume earthwork and construction in the affected areas within 5 days of the CBO granting the approval.

CIVIL-3 All plant site grading operations shall be subject to inspection by the CBO and the CPM. The project owner shall perform inspections in accordance with Chapters 3, 29 and 70 of the 1992 CBC (or the relevant sections of the currently adopted CBC). If the project owner's inspector discovers that work is not being done in accordance with the approved plans, the discrepancies shall be reported immediately to the project owner's responsible civil engineer, the CBO, and the CPM. The project owner shall prepare a written report detailing the discrepancies and non-compliance items, and send copies to the CBO and the CPM.

<u>Verification</u>: Within 5 days of the discovery of the discrepancies, the project owner shall transmit to the CBO and the CPM an NCR, and the proposed corrective action. These reports shall reference the corresponding Conditions of Certification and all applicable laws, ordinances, regulations, and standards. Within 5 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 next Monthly Compliance Report.

CIVIL-4 After completion of the finish grading of erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities.

<u>Verification</u>: Within 30 days of the completion of the facilities mentioned above, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

- STRUC-1 Prior to the start of any increment of construction, the project owner shall submit to the CBO for review and approval the applicable designs, plans, and drawings of the following:
  - major project structures;
  - major foundations, equipment supports and anchorages;
  - large field fabricated tanks:
  - rurbine/generator pedestal; and
  - switchyard structures.

## <u>Protocol</u>: The project owner shall:

- 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 most conservative shall govern (i.e., highest loads, or lowest allowable stresses). All plans, calculations, and specifications for foundations that support structures should be filed concurrently with the structure plans, calculations, and specifications;
- submit to the CBO the required number of copies of the plans, specifications, calculations, and other required documents of the designated major structures at least 90 days prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation; and
- ensure that the final plans, calculations, and specifications clearly reflect
  the inclusion of approved criteria, modifications approved in this
  Decision, 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.

<u>Verification</u>: At least 30 days prior to the start of any increment of construction, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications, and calculations conform with all of the requirements set forth in the Commission's Decision.

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

The project owner shall submit to the CPM a statement from the CBO that the proposed building plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable laws, ordinances, regulations, and standards.

- STRUC-2 As a minimum, the project owner shall submit to the CBO the required number of sets of the following:
  - 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);
  - concrete pour sign-off sheets;
  - bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
  - 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
  - reports covering other structure activities requiring special inspections in accordance with the 1992 CBC section 306 (or the relevant section of the currently adopted CBC).

<u>Verification</u>: If a discrepancy is discovered in any of the above data the project owner shall, within 5 days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the Condition(s) of Certification and applicable CBC chapter and section. Within 5 days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval to the CPM within 14 days provided specific test results comply with identified requirements. If disapproved the project owner shall, within 5 days, advise the CPM of the reason for disapproval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 1992 CBC section 303, (or the relevant section of the currently adopted CBC), including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

<u>Verification</u>: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the

CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM via the Monthly Compliance Report when the CBO has approved the revised plans.

Tanks and vessels containing sufficient quantities of highly toxic or explosive substances, hazardous to the safety of the general public if released, shall be designed to comply with exception 2 of the 1992 CBC section 2336(b). This section requires that the value for I of 1.5 shall be used for design.

<u>Verification</u>: At least 30 days prior to the start of installation of the tanks or vessels containing aqueous ammonia, sodium hypochlorite, or sulfuric acid, the project owner shall submit to the CBO for review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

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

STRUC-5 Prior to the submittal of the pile foundation plans, designs, and calculations to the CBO for review and approval, the project owner shall perform a peer review of the pile foundation design to ensure compliance with all applicable laws, ordinances, regulations, and standards. A peer review protocol shall be reviewed and approved by the CBO and the CPM.

The peer review shall include, but not be limited to:

- Review of geotechnical report(s) for the project, including recommended piling and vertical and lateral load capacities.
- Lateral load pile analysis including the load versus displacement for a single pile and pile group effects.
- Lateral displacement of a pile over pile length for unit loading at the top
  of the pile and lateral displacement for large and small soil displacements.
- Influence of pile group effects on lateral load capacities of the pile foundations; adequacy of the soil model(s) to be used in pile lateral load analysis.
- Estimates of pile curvatures over the entire length of the pile, including the Young Bay Mud, during seismic shaking; effects of seismically-

induced bending moments in the piles. The review shall also include the performance of spliced piles under seismic design loading conditions.

- Structural design concept and analysis to show that the proposed pile foundation will perform satisfactorily under seismic design loading conditions.
- A pile load test procedure (program) to verify the adequacy of axial tension and compression and lateral load design criteria of the piles.

The recommendations of the peer review group shall be incorporated in the final design of pile foundations. 185

<u>Verification</u>: At least 30 days prior to the start of the peer review process, the project owner shall submit to the CBO, the Cealtrian, and the CPM the proposed peer review protocol and the qualifications of the peer review group. The CBO and CPM shall, and the Coalition may, provide comments to the project owner within 15 days after receipt of the proposed peer review protocol and the peer review group's qualifications. The peer review group shall, and the Coalition may, submit its comments, analysis, and recommendations to the project owner for inclusion in the final design. Copies of the peer review group's comments, analysis, and recommendations, as well as those of the Coalition, shall be submitted to the CPM and to the CBO with the final design plans.

STRUC-6 Pursuant to Section 2335 of the California Building Code (CBC), the project owner shall perform a dynamic analysis using dynamic lateral force procedures when designing major project structures located on Soil Profile Type S4 to verify the adequacy of the proposed static analysis. Site-specific response spectra shall be used for all structures located on Soil Profile Type S4. The project owner can satisfy the CBC requirements by complying with Section 2333(j) in lieu of Section 2335.

<u>Verification</u> If an alternative lateral force analysis is used in lieu of dynamic analysis required by Section 2335, the alternative method shall be submitted to and approved by the CBO and CPM prior to completion of the final design. At least 45 days prior to the start of any increment of construction for major structures and equipment, the project owner shall submit the final design to the CBO for review and approval based on the results of the more conservative lateral force analysis, i.e., the static analysis compared with the dynamic analysis or its alternative. The final design shall show compliance with the CBC requirements. The results of the dynamic analysis or its alternative, if used, and the final design shall be submitted concurrently to the CPM.

<sup>——185</sup> The peer review group shall include a representative from the Bayview Hunters Point Clean Environment Coalition).

MECH-1 Prior to the start of any increment of piping construction, the project owner shall submit for CBO review and approval the proposed final design drawings, specifications and calculations for each plant piping system, other than domestic water, refrigeration systems, and small bore piping, e.g., piping and tubing with a diameter equal to or less than two inches. The submittal shall include the applicable QA/QC procedures. The project owner shall design and install all piping, other than domestic water, refrigeration, and small bore piping to the appropriate code listed below. Upon completion of construction of any piping system, the project owner shall request the CBO's inspection approval of said construction.

<u>Protocol</u>: The responsible mechanical engineer shall submit a signed and stamped statement to the CBO when:

- the proposed final design plans, specifications, and calculations conform with all of the piping requirements set forth in the Commission Decision;
- all of the other piping systems, except domestic water, refrigeration systems, and small bore piping, have been designed, fabricated, and installed in accordance with all applicable ordinances, regulations, laws, and industry standards, including, as applicable:
  - -- 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); and
  - National Fire Protection Association (NFPA), or their successors.

<u>Verification</u>: At least 30 days prior to the start of any increment of piping construction, the project owner shall submit to the CBO for approval, with a copy of the transmittal letter to the CPM, the proposed final design plans, specifications, calculations, and quality control procedures for that increment of construction of piping systems, including a copy of the signed and stamped engineer's certification of conformance with the Commission Decision. The project owner shall transmit a copy of 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 to the CBO and the California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by applicable laws, ordinances, regulations, and standards. Upon

completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation.

**Protocol**: The project owner shall:

- 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 codes, shall be submitted for prefabricated vessels and tanks; and
- have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

<u>Verification</u>: At least 30 days prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall 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 and/or Cal-OSHA inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

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

<u>Protocol</u>: The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the California Mechanical Code and other applicable laws, ordinances, regulations, and standards. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings, and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications

and calculations conform with all applicable laws, ordinances, regulations, and standards.

<u>Verification</u>: At least 30 days prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans, and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable laws, ordinances, regulations, an standards, with a copy of the transmittal letter to the CPM.

The project owner shall send copies of CBO comments and approvals to the CPM in the next Monthly Compliance Report. The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-4 Prior to the start of each increment of plumbing construction, the project owner shall submit for the CBO's approval the final design plans, specifications, calculations, and quality control procedures for all plumbing systems, potable water systems, drainage systems (including sanitary drain and waste), toilet rooms, building energy conservation systems, and temperature control and ventilation systems, including water and sewer connection permits issued by the county.

Upon completion of any increment of construction, the project owner shall request the CBO's inspection approval of said construction.

Protocol: The project owner shall design, fabricate, and install:

- plumbing, potable water, all drainage systems, and toilet rooms in accordance with Title 24, California Code of Regulations, Division 5, Part 5, and the California Plumbing Code (or the relevant section(s) of the currently adopted California Plumbing Code and Title 24, California Code of Regulations); and
- building energy conservation systems and temperature control and ventilation systems in accordance with Title 24, California Code of Regulations, Division 5, Chapter 2-53, Part 2 (or the relevant section of the currently adopted Title 24, California Code of Regulations).

The final plans, specifications, and calculations shall clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications, and calculations conform with all of the requirements set forth in the Commission Decision.

<u>Verification</u>: At least 30 days prior to the start of construction of any of the above systems, the project owner shall submit to the CBO the final design plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with all applicable laws, ordinances, regulations, and standards, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the next Monthly Compliance Report following completion of that increment of construction.

ELEC-1 For the 13.8 kV and lower systems, the project owner shall not begin any increment of electrical construction until final 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 all applicable laws, ordinances, regulations, and standards.

<u>Verification</u>: At least 30 days prior to synchronization with the PG&E Transmission System, the project owner shall submit to the CPM a statement signed by the CBO that the electrical equipment installations have been installed, inspected, and approved. The following activities shall be reported in the Monthly Compliance Report:

- receipt or delay of major electrical equipment;
- testing or energization of major electrical equipment; and
- the number of electrical drawings approved, submitted for approval, and still to be submitted.
- ELEC-2 The project owner shall submit to the CBO the required number of copies of items a and b for review and approval and one copy of item c:
  - a. Final plant design plans to include:
    - one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems;
    - -- system grounding drawings;
    - -- general arrangement or conduit drawings; and
    - other plans as required by the CBO.
  - b. Final plant calculations to establish:
    - -- short-circuit ratings of plant equipment;

- -- ampacity of feeder cables;
- -- voltage drop in feeder cables;
- system grounding requirements;
- coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
- system grounding requirements;
- -- lighting energy calculations; and
- -- other reasonable calculations as customarily required by the CBO.
- c. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Commission Decision and the California Electric Code.

<u>Verification</u>: At least 30 days prior to the start of each increment of electrical equipment installation, the project owner shall submit to the CPM a copy of the transmittal letter to the CBO for the items listed above.

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#### INDUSTRIAL SAFETY AND FIRE PROTECTION

Under this topic the Commission used an interdisciplinary approach to examine SFEC's proposals for protecting worker safety. The Commission's analysis incorporates information from the disciplines of Public Health, Hazardous Materials, and Industrial Safety as well as a review of SFEC's proposed Safety and Health Programs. These proposed programs include general safety requirements, a basic protective equipment guide, an outline of the Injury Illness Prevention Program, and other measures designed to comply with applicable laws, ordinances, regulations, and standards.

#### 1. Setting.

The project site is located on Port of San Francisco property in an area surrounded by heavy industry, including the Darling International animal-rendering plant and several grain elevator structures.

The San Francisco Fire Department will provide the fire services and the emergency medical services. The nearest emergency medical facility is San Francisco General Hospital, located less than two miles from the site. The City of San Francisco Port Commission's Fire Marshal will review and approve the project's fire protection plans as part of the Port's building permit process.

#### 2. Potential Impacts.

Facility construction, operation, and maintenance activities expose workers to the hazards identified in SAFETY TABLE 1. Accidents during these activities may affect worker health and safety. These potential impacts may be minimized through adherence to appropriate engineering design criteria and compliance with applicable laws, ordinances, regulations; and standards. (AFC, p. 5.7-1.)

## SAFETY TABLE 1

## Potential Worker Hazards

	<u> </u>		
Activity	Hazard		
Facility Construction			
Elevated work	Falls		
Welding	Flash burns, explosion, thermal burns, toxic welding fumes		
Excavations	Excavation/trench wall collapse, spoil movement, oxygen deficiency, build-up of toxic gasses, fumes, vapors, dusts or mists, wet exposures, crushing hazards, confined spaces		
Cement/forms work	Falls, protruding objects, alips, trips, caustics, punctures, and lacerations		
Equipment operation	Noise exposure, vehicle accidents, load hazards; induced current*		
HRSG fabrication	Particulate exposure, welding fumes, overhead hazards, confined spaces		
Transmission lines/transformer station	Fall hazard, electrocution, flash burns		
Painting	Paint solvents, paint vapors, chemical burns, fire/explosion, falls		
Abrasive blasting	Dust, flying particles, pressure vessels, noise		
HRSG unit cleaning	Chemical exposure, high pressure systems, thermal burns, noise exposure		
Powered hand tools	Noise, dust, flying particles, cuts, amputation, crushing		
Pueling	Fire and explosion, environmental contamination		
Facility Operation			
Generation enclosure	High voltage		
Operations building	High voltage, repetitive trauma		
Cooling unit	Falls, noise, wet exposures, chemical exposure		
HRSG	NH <sub>2</sub> , noise, heat, steam, pressure		
HRSG stack	Heat, falls		
Transformer	Electrical (i.e., electrocution and flash burns)		
Gas сс дргенот	Flammable, noise, temperature, rotating equipment, pressure		
Compressed gas storage	Fire and explosion		
Chemical storage	Chemical splashes, burns, reactions, gases, vapors, and fumes		
Machinery, general	Noise, temperature extremes, rotating equipment, electrocution		

<sup>\*</sup> Induced current is a potential hazard at Port Site only.

(Source: AFC, Table 5.7-1.)

#### 3. Summary of the Evidence and Proposed Mitigation.

Safety programs to be implemented by SFEC include preventive engineering, education, and enforcement measures. Engineering techniques include substituting less hazardous materials, designing out hazards, and prescribing protective equipment. Education includes training personnel in safe procedures and practices, teaching personnel to do a job correctly, teaching personnel what hazards exist in a product, process, or task, and teaching personnel how to take appropriate protective actions. Enforcement of federal, state, and local regulations will result in adequate margins of safety and adequate levels of fire prevention. (FSA, Vol. 1, p. 337.)

To ensure adequate protection for the health and safety of its workers, SFEC will develop a series of safety plans and manuals to address both construction and plant operation hazards.

The major safety plans for the construction phase are:

- Construction Injury and Illness Prevention Program (IIPP) (Cal. Code Regs., tit. 8, § 1509);
- Construction Fire Protection and Prevention Plan (Cal. Code Regs., tit. 8, § 1920); and
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 1514 1522).

The Construction Safety Orders also contain additional specific worker safety and health requirements applicable to construction activities. In addition, the requirements of the Electrical Safety Orders (Cal. Code Regs., tit. 8 §§ 2299 - 2974) and Unfired Pressure Vessel Safety Orders (Cal. Code Regs., tit. 8, §§ 450 - 544) will be applicable to the project. (FSA, Vol. I, p. 341.)

During the operation phase of the project, many of the Electrical Safety Orders and Unfired Pressure Vessel Safety Orders noted above will be applicable. In addition, the Division of Industrial Safety has promulgated regulations applicable solely to operations. These are

contained in the General Industry Safety Orders (See, Cal. Code Regs., tit. 8, § 3200 et seq.) SFEC will incorporate these requirements into its <u>Project Operation Safety and Health Program</u>, the major elements of which include:

- <u>Injury and Illness Prevention Program</u> (Cal. Code Regs., tit. 8, § 3203);
- Emergency Action Plan (Cal. Code Regs. tit. 8, § 3220);
- Fire Prevention Plan (Cal. Code Regs., tit. 8, § 3221); and
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401 3411).

SFEC's health, safety, and fire protection program will include over 40 different elements to reduce or eliminate hazards related to the construction and operation of the facility. <sup>186</sup> Commission sStaff incorporated examined SFEC's proposals and found them adequate. Staff noted that the Conditions of Certification will ensure adequate worker safety and compliance with applicable laws, ordinances, regulations, and standards. (FSA, Vol. I, p. 345.)

No other party provided evidence on this topic.

#### 4. Commission Discussion.

SFEC's proposed programs for woorker safety are included in the Conditions of Certification below. The evidence of record uniformly indicates that the Conditions of Certification provide adequate assurance that all reasonable steps will be taken to assure worker safety at the project and that the facility will comply with the applicable laws, ordinances, regulations, and standards which pertain to worker safety and fire protection. The specific measures will be developed in a series of construction and operation plans. These plans will be

<sup>&</sup>lt;sup>186</sup> A complete list of the elements contained in SFEC's Health, Safety, and Fire Prevention Program is found on pages 5.7-5 and 5.7-6 of the AFC, and is included in this Decision as SAFETY TABLE 2 following the Conditions of Certification for this section.

reviewed by various agencies such as the City of San Francisco Fire Department and Cal-OSHA to ensure that worker safety is adequately addressed.

#### FINDINGS AND CONCLUSIONS

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

- Potential worker hazards at the site during construction and operation include handling, storage, and use of hazardous materials; high noise levels; temperature extremes; operating heavy and mechanical equipment; energized equipment and tools; steam; confined spaces; atmospheric contaminants; excavation and trenching; electrical hazards; compressed gases and/or liquefied flammable and nonflammable gases; elevated work; and high-pressure vessels.
- 2. Applicable laws, ordinances, regulations, and standards are designed to minimize threats to worker health and safety.
- 3. The measures contained in the Conditions of Certification will adequately protect plant personnel from incidents related to spills and routine handling of hazardous, toxic, and flammable materials as well as from fire and explosive accidents.
- 4. The project will meet all applicable laws, ordinances, regulations, and standards, including those applicable federal, state, and industry worker safety standards, identified in the pertinent portion of APPENDIX: LORS of this Decision.

#### CONDITIONS OF CERTIFICATION

SAFETY-1 The project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a copy of the <u>Project Construction Safety and Health Program as follows:</u>

Project Construction Safety and Health Program

- Construction Injury and Illness Prevention Program
- Construction Fire Protection and Prevention Plan

#### Personal Protective Equipment Program

<u>Protocol</u>: <u>The Construction Injury and Illness Prevention Plan</u> shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders.

The Construction Fire Protection and Prevention Plan shall be submitted to the San Francisco Fire Department for review and acceptance.

<u>Verification</u>: At least 30 days prior to the start of construction or a date agreed to by the CPM, the project owner shall submit to the CPM a copy of the <u>Project Construction Safety and Health Program</u>, incorporating Cal-OSHA's Consultation Service comments, and a letter from the City of San Francisco Fire Department stating that they have reviewed and accept the Construction Fire Protection and Prevention Plan.

## SAFETY-2 The project owner shall submit to the CPM a copy of the <u>Project Operation Safety and Health Program</u> containing the following:

- Operation Injury and Illness Prevention Plan
- Emergency Action Plan
- Operation Fire Protection Plan
- Personal Protective Equipment Requirements

<u>Protocol</u>: The <u>Injury and Illness Prevention Plan</u>, <u>Emergency Action Plan</u>, and <u>Personnel Protective Equipment Program</u> shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders.

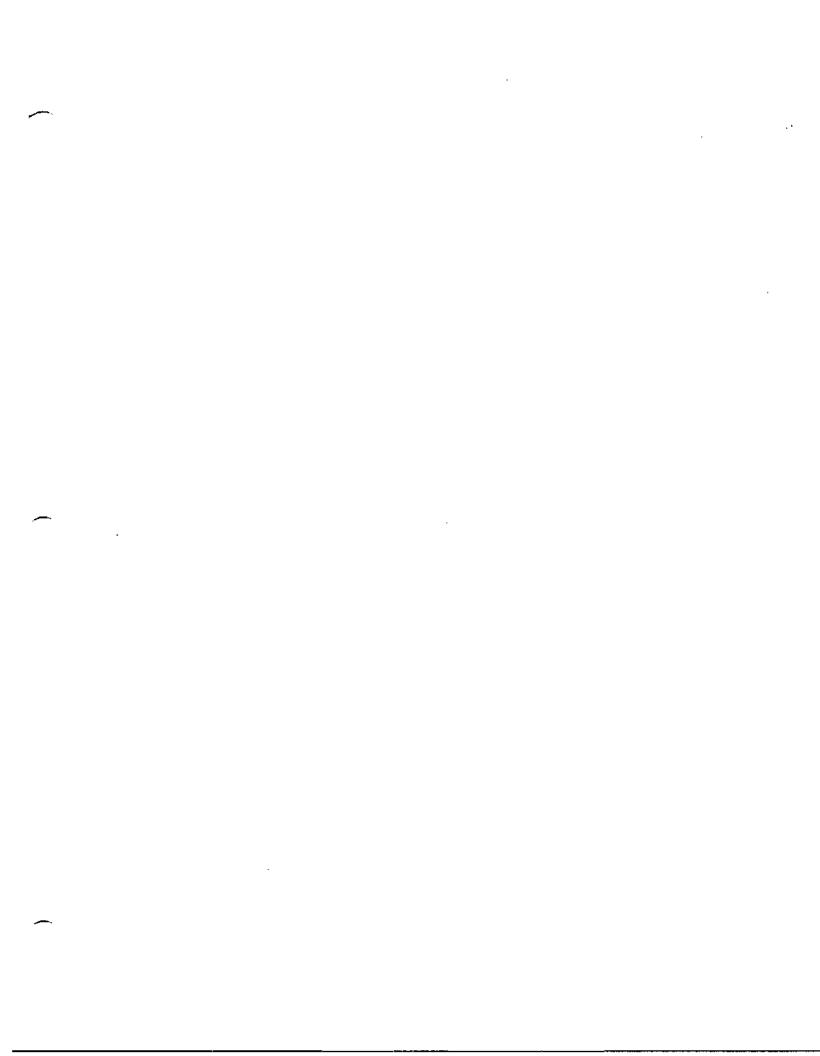
The Fire Protection Plan and the Emergency Action Plan shall be submitted to the San Francisco Fire Department for review and acceptance.

<u>Verification</u>: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the <u>Project Operation Safety & Health Program</u>. It shall incorporate Cal-OSHA Consultation Service comments and a letter from the San Francisco Fire Department stating that they have reviewed and accept the specified elements of the Operation Safety and Health Plan.

The project owner shall notify the CPM that the <u>Project Operation Safety and Health Program</u> which includes the <u>Injury and Illness Prevention Plan</u>, the <u>Fire Protection Plan</u>, the <u>Emergency Action Plan</u>, and the <u>Personal Protective Equipment</u> requirements, together with all records and files on accidents and incidents, are present on-site and available for inspection.

SAFETY-3 The project owner shall design and install all exterior lighting to meet the requirements contained in the Visual Resources Condition of Certification VIS-8 and in accordance with the American National Standards Practice for Industrial Lighting, ANSI/IES-RP-7.

<u>Verification</u>: Within 60 days after construction is completed, the project owner shall submit a statement to the CPM that the illuminances contained in ANSI/RP-7 and the Conditions of Certification in this Decision were used as a basis for the design and installation of the exterior lighting.



#### Environmental Information

## SAFETY TABLE 2

## Health, Safety, and Fire Prevention Program Elements

Program Element	Regulation
Health and safety program responsibilities	8 CCR, Section 3203, GISO, and Section 1509, CSO.
Public safety	·
Traffic safety	8 CCR, Article 25, GISO, and Article 11, CSO.
Fire safety	8 CCR, Group 27 and Section 3221, OISO, and Article 36, CSO.
Environmental health and safety	
Occupational health and safety	CAL-OSHA
Airbome contaminants	8 CCR, Section 5155, GISO, and Article 4, CSO.
Accident/incident prevention	8 CCR, Section 3203, GISO, and Section 1509, CSO.
Regulatory compliance	(CAL-OSHA, OSHA)
Plans for weekly toolbox meetings during construction	8 CCR, Section 3203, GISO, and Section 1509, CSO.
Health and safety literature to be provided employees	\$ CCR, Section 3203, GISO, and Section 1509, CSO.
Health and safety education planned for the project	8 CCR, Section 3203, GISO, and Section 1509, CSO.
First aid and emergency medical procedures	8 CCR, Section 3400, GISO, and Section 1512, CSO.
Emergency response plans (fire, earthquake, bomb threat, etc.)	8 CCR, Section 3220, GISO
Hazardous materials management and communication	8 CCR, Section 5194, GISO
Accident and incident reporting	8 CCR, Section 3203, GISO, and Section 1509, CSO.
Personal protective equipment (clothing, hard hats, vests, shoes, goggles, masks, gloves, hearing protection, etc.)	8 CCR, Articles 10, 10.1, 11, and Section 5144, GISO, and Article 24, and Sections 1514, 1515, 1516, 1517, 1518, 1520, 1521, 1522, CSO.
Inspections	8 CCR, Section 3203, GISO, and Section 1509, CSO.
Health and safety responsibilities of supervisory personnel	

(Source: AFC, pp. 5.7-5, 5.7-6.)

## SAFETY TABLE 2 (Continued)

## Health, Safety, and Fire Prevention Program Elements

Program Element	Regulation	
Health and safety checklists		
Signs, tags, and barriers	8 CCR, Sections 3216, 3320, 3321, 3638, 4649, 4827, 5470, 5483, GISO.	
Noise levels and control	8 CCR, Group 15, Article 105, GISO.	
Provisions for ventilation	8 CCR, Group 16, Article 107, GISO.	
Flammable/combustible materials handling and storage	8 CCR, Group 20, GISO, and Article 36, CSO.	
Machine guarding	8 CCR, Group 8, Articles 54, 55, and 59, GISO, and Sections 1582.16, 1582.18, 1680, CSO.	
Hand and power tool use	8 CCR, Article 20, GISO, and Articles 26, 27, and 28, CSO.	
Crane and hoist operation	8 CCR, Group 13, GISO, and Articles 9, 14, and 15, CSO.	
Heavy equipment and machine operation	8 CCR, Article 25, GISO, and Article 10, CSO.	
Pile driving	8 CCR, Article 12, CSO.	
Illumination	8 CCR, Section 1523, and Article 24, CSO.	
Electrical safety	8 CCR, Subchapter 5, ESO.	
Housekeeping	\$ CCR, Section 1513, CSO.	
Utilities, below and above ground		
Rigging	8 CCR, Article 101, GISO, and Article 15, CSO.	
Fall protection and scaffolding	8 CCR, Articles 21, 22, 23, and 24, CSO.	
Sanitary facilities	8 CCR, Article 9, GISO, and Sections 1519, 1524, 1526, and 1527, CSO.	
Interface with other contractors		
Report formuts		
Sample accident reports and other report forms		
Drug and alcohol program		
Employee/employer communications	8 CCR, Sections 3203, 3204, 5193, 5194, and Article 10, GISO, and Section 1509, CSO.	

#### WASTE MANAGEMENT

The waste management analysis evaluates SFEC's proposals to mitigate the risks and environmental impacts associated with the handling, storage, and disposal of project-related hazardous and non-hazardous wastes. The Commission must determine whether:

- Wastes generated during project construction and operation will be handled and stored in an environmentally safe manner;
- Disposal of project wastes will result in significant adverse impacts to existing waste disposal facilities; and
- The management of the wastes will be in compliance with all applicable laws, ordinances, regulations, and standards.

#### 1. Setting.

The site is located on the southern portion of Seawall Lot 344 and adjacent to Seawall Lot 352, a portion of which is a former solid waste disposal site closed by the Port of San Francisco in 1990. A larger 60-acre landfill area which included portions of Lot 344 was also closed at that time. (FSA, Vol. I, p. 352; AFC, p. 5.6-1.)

SFEC conducted Phase I and Phase II Environmental Site Assessments (ESA) of the site to determine the presence of hazardous substances or petroleum products in the ground, groundwater, or surface water. (AFC, p. 5.6-1 and AFC Appendix N.) SFEC's data indicated that chemicals of concern were generally present in the fill material over the entire

<sup>187</sup> See, San Francisco Bay Regional Water Quality Control Board Site Closure Order No. 87-061.

<sup>&</sup>lt;sup>188</sup> Sep the SOIL AND WATER RESOURCES section in this Decision for a detailed discussion of Phase II ESA results and the Site Action Plan.

site. <sup>189</sup> Since there is no history of hazardous substance use or storage at the proposed site, the most likely sources of contamination are on-site fill material, illegal disposal of waste both on-and off-site, and migration of contaminants from surrounding properties. (FSA, Vol. I, p. 353.)

#### 2. <u>Potential Impacts</u>.

The generation of hazardous and non-hazardous wastes from project activities could adversely affect the community unless appropriate handling, storage, and transport procedures as well as mitigation measures are implemented. However, there is no evidence that the *amount* of hazardous or non-hazardous wastes to be generated by the project will cause significant impact to the available waste disposal facilities.

#### 3. Summary of Evidence and Proposed Mitigation.

a. <u>Construction</u>. Non-hazardous wastes from construction include debris and other materials requiring removal during site grading and excavation, excess concrete, lumber, scrap metal (e.g., ferrous metals, copper and aluminum from wiring) and empty non-hazardous chemical containers. (AFC, Vol. I, p. 356.) SFEC estimated that about 40 cubic yards of non-hazardous waste per week may be generated. (*Ibid.*; AFC, p. 5.12-3).

Solid metal wastes are generally salvageable and various wastes such as cardboard and paper will be recycled. (FSA, Vol. I, pp. 356-357; SFEC Data Response Oct. 17, 1994, WM-2). Non-office construction waste will be stored in dumpsters on-site and transported to the City of San Francisco Solid Waste Transfer and Recycling Center. During construction, the general contractor will be responsible for trash collection and disposal services. (*Ibid.*)

These chemicals include metals, organic compounds, and low concentrations of pesticides and polychlorinated biphenyls found at random locations within the fill material; the data show no clear concentration trends with depth. (FSA, Vol. 1, p. 353.)

Hazardous wastes that may be generated during construction include contaminated soil from excavation activities, waste oil and grease, paint, spent solvent, welding materials, cleanup materials from spills of hazardous substances, and cleaning solutions from pre-operational chemical cleaning of the boiler and preboiler systems of the heat recovery steam generator. (FSA, Vol. I, p. 357.)

There will be no on-site treatment of hazardous construction-related wastes. Chemical wastes will be stored on-site less than 90 days in portable tanks and transported off-site by a specialty chemical cleaning contractor prior to treatment or disposal. (FSA, Vol. I, p. 357; AFC, p. 3-52; 5.12-6.) Quantities of other hazardous wastes will be minimal and temporarily stored on-site in approved containers prior to being transported to licensed treatment, recycling, or disposal facilities. (*Ibid.*)

Site preparation activities, which include leveling, soil excavation, and earth moving, will conform with the requirements of the Site Remediation Action Plan as described in the SOIL AND WATER RESOURCES section of this Decision. (FSA, Vol. I, p. 357.) Contaminated soil elassified as hazardous waste will be managed on site, transported, treated, and disposed in accordance with environmental health standards for the management of hazardous waste and in conjunction with the oversight of the Department of Toxic Substances Control (DTSC). (Cal. Code Regs., tit. 22, § 66001 et seq.)

b. Operation. The evidence shows that less than eight cubic yards of non-hazardous solid wastes will be generated on a weekly basis and, to the extent feasible, 40 percent of that waste such as office-related material will be recycled. (AFC, Vol. I, p. 357; SFEC Data Response, Oct. 14, 1994, WM-1). Remaining non-hazardous wastes, such as dry solids from treatment of secondary effluent water, will be hauled to the City of San Francisco Solid Waste Transfer and Recycling Center. (FSA, Vol. I, p. 358.)

An estimated 9.4 million gallons per week of non-hazardous wastewater will be generated and piped to the Southeast Water Pollution Control Plant (WPCP) for treatment and/or discharge

by the WPCP under its existing National Pollutant Discharge Elimination System (NPDES) permit. (SFEC Data Response, Oct. 14, 1994, WM-1; 7/13/95 RT 182:3-4.)

Hazardous wastes generated during routine project operation include cleaning solutions, spent air pollution control catalyst, used oil, used cleaning solvents, waste paint, contaminated cleanup materials, and empty chemical containers. (FSA, Vol. I, p. 358.) All hazardous wastes will be handled, stored, transported, treated, and disposed in accordance with applicable federal, state, and local law. (AFC, p. 5.12-6.) The facility is considered a hazardous waste generator and will obtain an EPA hazardous waste generator identification number from the DTSC pursuant to state regulations. ((Ibid.; Cal. Code Regs., tit. 22, § 66262.12.)

The heat recovery steam generator (HRSG) requires cleaning every three to five years, a process which generates about 60,000 gallons of acid and alkaline chemical cleaning waste solutions and flushing waters. This hazardous waste contains dissolved metals, and will be transported off-site, treated, and disposed by a licensed chemical cleaning contractor in compliance with applicable law. (AFC, pp. 3-52, 5.12-5.)

The oxidation catalyst, used for CO emissions control, and the selective catalytic reduction catalyst, used for NOx emissions control, must be replaced after several years' service. Spent catalysts, which contain heavy metals, will be sent back to the manufacturer for recycling. (AFC, p. 3-52.)

Approximately 1300 gallons of waste oil will be generated annually, stored on-site in approved containers less than 90 days, and removed by a licensed waste oil recycling contractor. (AFC, pp. 3-51, 5.12-4, 5.12-6.) Spent solvents will also be stored temporarily in containers and shipped within 90 days to a solvent recycling facility. (SFEC Data Response, Oct. 14, 1995 WM-2.)

Used containers of hazardous substances, such as chemical containers or oil filters may be classified as hazardous wastes. However, if managed according to regulatory guidelines,

such containers can be considered non-hazardous. (Cal. Code Regs, nt. 22, §§ 66261.7, 66266.130; FSA, Vol. I, p. 358.)

Landfills. Solid waste will be hauled from the City of San Francisco Solid Waste Transfer and Recycling Center to the Altamont landfill, a Class II facility, <sup>196</sup> located about 60 miles from San Francisco in Alameda County. The landfill currently has about 17 million tons of remaining capacity and ten years of remaining life. It accepts about 1.6 million tons annually (over 4,000 tons per day). Anticipated expansion plans will add 50 to 100 years of available life to the facility. (FSA, Vol. I, p. 358.) The evidence of record establishes that the amounts of non-hazardous wastes generated during project construction and operation are minimal compared with existing disposal capacity, and will not cause significant impacts to the Altamont landfill. <sup>191</sup>

Since much of the project's hazardous wastes such as oil and spent catalysts will be recycled, the evidence indicates that remaining amounts of hazardous wastes should be minimal and will not significantly impact the capacity of any Class I landfill in California.<sup>192</sup> There are three Class I landfills in California permitted to accept hazardous waste:

State regulations establish site classifications and waste management requirements for waste treatment, storage, or disposal in landfills: Class I for hazardous waste; Class II for designated waste; and Class III for non-hazardous waste. (CCR, tit. 23, § 2510 et seq.)

<sup>181</sup> Construction wastes will be less than three tons per day, while operation wastes will be about one ton a day. (FSA, Vol. I, p. 359; 7/13/95 RT 184-185, 189.) This constitutes 0.03 percent of existing disposal capacity. (7/13/95 RT 185:6-7.)

Until further soil analysis is done prior to construction, the amount of contaminated soil that may be classified as hazardous is unknown. Further, encapsulation of contaminated soils may be appropriate under the Site Remediation Plan. However, Staff estimated that about 40,000 cubic yards of soil could be removed for foundation construction purposes. The existing capacity in California's hazardous waste landfills, assuming no future expansion, totals about 15 million cubic yards. If all the soil removed for foundation preparation work at the site were classified as hazardous, the impact on statewide hazardous waste capacity would be insignificant, totalling about one-third of one percent. (FSA, Vol. I, p. 359.) Under the proposed Site Action Plan, contaminated soil will not be removed from the site, although the excavation and grading plan may result in some landfill removal; therefore, any impacts on Class Handfill facilities from disposal of hazardous or contaminated soils will be minimal of hon-existent:

- Chemical Waste Management's Kettleman Hills facility in Kings County. One unit has about 8 million cubic yards of remaining capacity out of a total permitted capacity of 10 million cubic yards. An additional unit has approximately 4.5 million cubic yards of capacity that could become available following reconstruction of that unit.
- Laidlaw Environmental Service's Lokern facility in Buttonwillow (Kern County). The
  permitted capacity is 6 million cubic yards with about 4.5 million remaining. A permit
  modification to increase capacity to 14 million cubic yards is being pursued.
- Laidlaw Environmental Service's facility in Westmoreland (Imperial County). The
  estimated remaining capacity is 2.5 million cubic yards although re-permitting and
  expansion is expected.

Cumulative Impacts. The expert witnesses presented by SFEC and Staff concluded that cumulative impacts will be insignificant for both hazardous and non-hazardous wastes due to the minor amounts of wastes generated during project construction and operation, the insignificant impacts on individual disposal facilities, and the availability of additional regional landfills. (FSA, Vol. I, p. 359; 7/13/95 RT 191-192.) The Intervenors argued that the project will contribute to cumulative impacts on state landfill capacity; however, they presented no evidence to refute the data submitted by SFEC and Staff.

#### 4. <u>Commission Discussion</u>.

SFEC's proposed mitigation measures comply with applicable law and ensure that no significant environmental impacts will result from the management and disposal of project-related waste. The Site ActionRemediation Plan for handling contaminated soil found on-site is discussed in the SOIL AND WATER RESOURCES section of this Decision. Implementation of the proposed mitigation measures, which are included in the Conditions of Certification, will ensure compliance with all applicable law. 193

The Intervenors indicated concern that Staff did not review whether the landfills to be used by the project are in compliance with Title VI of the Civil Rights Act of 1964. (See the section on ENVIRONMENTAL JUSTICE in this Decision.) The Commission takes administrative notice that the landfills identified by SFEC presently operate under applicable state law. The wastes generated by the project will not require the siting and licensing of additional landfill operations.

#### FINDINGS AND CONCLUSIONS

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

- 1. Project construction and operation will produce hazardous and non-hazardous wastes.
- 2. To the extent feasible, SFEC will recycle much of the non-hazardous wastes.
- The remaining non-hazardous wastes that are not recycled will be collected and transported to the City of San Francisco Solid Waste Transfer and Recycling Center for hauling to the Altamont Class II Landfill in Alameda County.
- 4. Much of the hazardous wastes, such as used oil and spent catalysts, will be removed by a licensed contractor for recycling.
- 5. Hazardous wastes, such as chemical wastes and cleaning solutions will be handled, stored, collected, transported, treated, and disposed at an appropriate California Class I Landfill in accordance with applicable law.
- 6. The amounts of hazardous and non-hazardous wastes generated during project construction and operation are minimal compared with existing disposal capacity at appropriate Class I and II Landfills and, therefore, will not cause significant adverse impacts to existing landfill capacity.
- 7. Cumulative impacts resulting from the handling and disposal of project-related hazardous and non-hazardous wastes will be insignificant.
- 8. Hazardous and non-hazardous wastes generated during project construction and operation will be handled in an environmentally safe manner.
- 9. Implementation of the Site Remediation Action Plan described in the SOIL AND WATER RESOURCES section of this Decision will ensure that on site management, excavation, and disposal of contaminated soil will be handled in conformance with applicable law. Potential impacts to Class I landfills from the disposal of contaminated soil that may be removed from the site during grading and excavation will be minimal or non-existent.
- Implementation of the Conditions of Certification will ensure that hazardous and non-hazardous project wastes will be managed in compliance with all applicable laws, ordinances, regulations, and standards as identified in APPENDIX: LORS of this Decision.

#### CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control (DTSC) prior to generating any hazardous waste.

<u>Verification</u>: The project owner shall keep its copy of the identification number on file at the project site and notify the California Energy Commission Compliance Project Manager (CPM) via the monthly compliance report of its receipt.

WASTE-2 The project owner shall notify the CPM of any waste management-related enforcement action taken or proposed to be taken against it, or against any waste hauler or disposal facility or treatment operator with which the project owner has a contract for such services.

<u>Verification</u>: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action.

- WASTE-3 Prior to the start of both construction and operation, the project owner shall prepare and submit to the San Francisco Department of Public Health and the CPM and Bayview Hunters Point Clean Environment Coalition (Coalition) a waste management plan for all hazardous and non-hazardous wastes generated during construction and operation of the facility, respectively. The plans shall contain, at a minimum, the following:
  - A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications; and
  - Methods of managing each waste, including treatment methods and companies contracted
    with for treatment services, waste testing methods to assure correct classification,
    methods of transportation, disposal requirements and sites, and recycling and waste
    minimization/reduction plans.

<u>Verification</u>: No less than 60 days prior to the start of construction, the project owner shall submit the construction waste management plan to the San Francisco Department of Public Health and the CPM-and-Coalition for review. The project owner shall also provide a copy of the construction waste management plan to the Coalition at this time. The operation waste management plan shall be submitted no less than 60 days prior to the start of project operation. The CPM will provide comments to the project owner within 15 days upon receipt of the plan (or a mutually agreed upon date). The project owner shall submit any required revisions within 30 days of notification by the CPM (or mutually agreed upon date). The CPM shall notify the

project owner regarding approval of the revisions within 15 days of receipt of the revised documents.

In the Annual Compliance Reports, the project owner shall document how actual waste management methods compared to planned management methods during the year.

WASTE-4 The project owner shall contact Region 2 of the Department of Toxic Substances Control (DTSC) to obtain oversight for remediation activities which shall take place under the auspices of DTSC's voluntary clean-up process. The project owner shall ensure that these activities are coordinated with the San Francisco Regional Water Quality Control Board (SFRWQCB) and the San Francisco Department of Public Health. The remediation activities shall include preparation of a health and safety plan which will ensure that off-site migration of contaminants is minimized for all pathways.

<u>Verification</u>: At least 90 days prior to the beginning of construction, the project owner shall notify the CPM in writing that DTSC Region 2 and the SFRWQCB have been contacted and have agreed to provide oversight for any remediation activities that are which may be required at the site. The project owner shall provide copies of all documents and plans required by DTSC Region 2 to the CPM for review and approval.

: . .

#### TRANSMISSION LINE SAFETY AND NUISANCE

The transmission line interconnecting the proposed project to the existing transmission grid must be designed, constructed, and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. Issues include aviation safety, communications interference, fire safety, audible noise, hazardous and nuisance shocks, and electric and magnetic field levels.

#### 1. Setting.

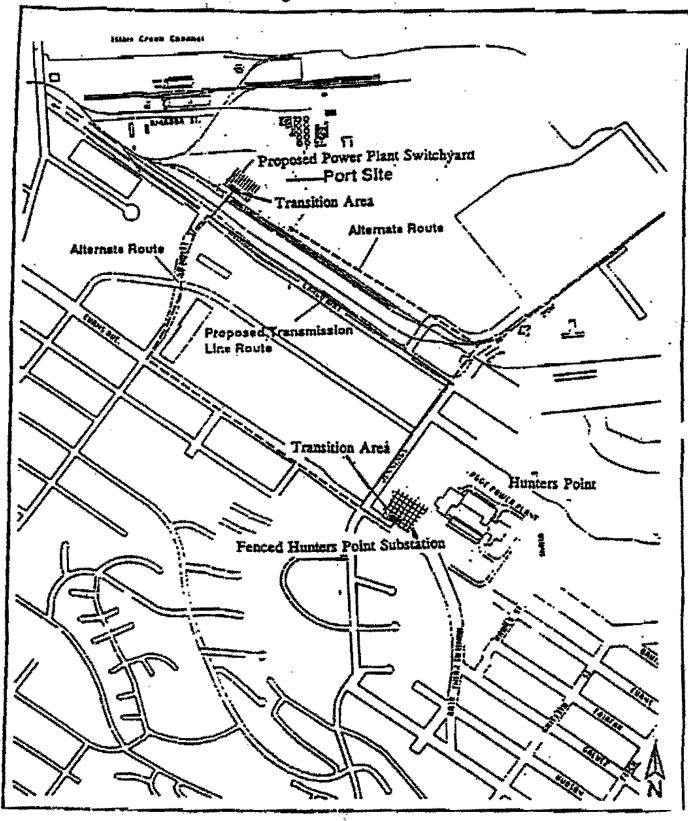
The proposed underground transmission line will run southeast along Cargo Way, to Jennings Street, turn southwest to Hunters Point Boulevard., and then turn southeast following Hunters Point Boulevard. until it reaches the Hunters Point substation. The route is located within an area zoned for industrial uses. The nearest sensitive receptors include the businesses along the route and the residences about 1/2 mile south of the site, as well as the Head Start Center and Sojourner Truth Day Care Center about 3/4 mile south of the site. (Staff's TLSN Supplemental Testimony filed July 5, 1995, p. 2; 7/13/95 RT 4.) TLSN FIGURE 1 shows the proposed transmission line route. (See also TSE FIGURE 2 in this Decision.)

#### 2. Potential Impacts.

Transmission facilities may directly or indirectly create safety or nuisance impacts. The height and proximity of transmission equipment can theoretically interfere with the flight patterns of nearby military and public use air fields, creating aviation safety hazards. The voltage of transmission equipment can cause interference with radio, telephone, and television reception. Audible noise can be generated by overhead transmission lines, switchyards, substations, or other transmission equipment. The operation of transmission facilities can create the potential for both hazardous and nuisance shocks. The electric and magnetic fields associated with transmission facilities may be of concern to the public because of possible shock hazards and health effects. (FSA, Vol. II, pp. 138-139.)

TLSN FIGURE 1

Location of Underground Tranmission Lines - Port Site



(Source: FSA, TLSN Supp. Test., p. 3.)

#### 3. Summary of Evidence and Proposed Mitigation.

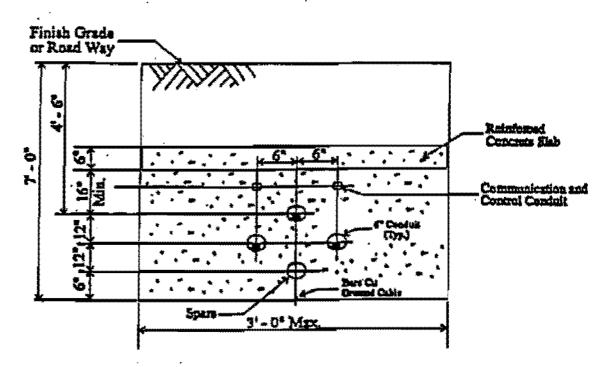
The evidence submitted by SFEC and Staff establishes that the transmission line associated with this project will not cause any impacts associated with aviation safety, fire hazards, audible noise, hazardous shocks, or nuisance shocks because the line will be installed underground. Potential communications interference will be mitigated by appropriate design methods. Electric field levels from the underground line will be very low or non-existent. Magnetic field (EMF) reduction techniques and good engineering practices will significantly reduce public exposure to EMF concerns.

Aviation Safety. The proposed underground 115 kV transmission line will have no impact on aviation safety. (FSA, Vol. II, p. 139.) The transition equipment at the switchyard and substation is below minimum height standards for structures near airports and poses no risk to aviation. (*Ibid.*)

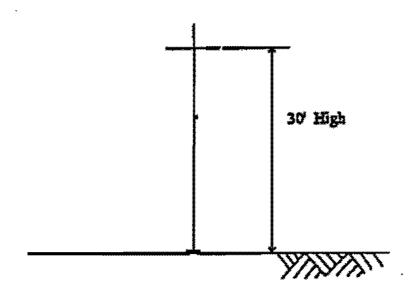
Fire Hazards. The 115 kV underground line will consist of a solid dielectric cable installed in plastic conduit, which poses an insignificant or non-existent fire hazard. (*Ibid.*; TLSN Supp. Test., p. 1.) See, TLSN FIGURE 2. In the event of an earthquake, powerful seismic forces could subject the underground conduit to longitudinal and lateral shaking, causing the cables to rupture. This may create an electrical fault if the line is energized and causes electricity to be released in the form of an arc. It is most likely, however, that any seismic forces sufficient to cause rupture of the cables would also trigger a shutdown of the power system within milliseconds, thus removing energy from transmission circuits. (FSA, Vol. II, p. 140.)

The evidence also indicates that natural gas pipelines are present along the underground transmission line route, creating a slight potential for fire involving natural gas. (*Ibid.*) The plastic conduit enclosing the transmission cable could slightly increase this potential in the event of gas rupture, but the expert testimony of record concludes that the risk of fire hazard is insignificant. (*Ibid.*)

# TLSN FIGURE 2 Transmission Configurations



## SOLID DIELECTRIC POWER CABLES



TYPICAL OVERHEAD TRANSMISSION LINE

Note: Sketches are not to scale.

(Source: FSA, TLSN Supp. Test., p. 4.)

Audible Noise. Since the transmission line will be underground and the substation and switchyard equipment will not produce noise, there will no audible impacts associated with transmission facility operation. (FSA, Vol. I, p. 141.)

Hazardous Shocks. Hazardous shocks may arise from direct contact with energized conductors of transmission facilities. State regulations establish standards to reduce the risk of exposure to hazardous shocks and to regulate safety aspects of transmission line construction. CPUC General Order (GO) 95 covers clearances, grounding, materials, maintenance, inspection, and other construction safety requirements for overhead lines. Title 8, California Code of Regulations, section 2700 covers construction, operation, and maintenance of electrical equipment. GO-128 covers the construction and safety requirements for underground supply and communications systems. (Id., pp. 140-141.)

The evidence indicates that the transmission system is designed to comply with the applicable standards and, therefore, the potential for hazardous shocks due to direct contact with energized conductors is insignificant or non-existent. (*Id.*, p. 141.)

Nuisance Shocks. Nuisance shocks are non-hazardous, but unpleasant experiences, caused by electric currents below levels that are legally and medically recognized as likely to cause physiological harm. Nuisance shocks are a concern for overhead transmission lines because a current can be induced in a metallic object such as a fence; however, in this case, nuisance shocks are not likely to occur because the proposed line will be underground. (*Id.* p. 141.)

The transmission system is designed to comply with applicable standards on grounding of supply and communications conductors and equipment to prevent electric shocks. Therefore, according to the expert testimony of record, nuisance shocks associated with the proposed underground transmission line, switchyard, or transition equipment should not occur. (*Ibid.*)

<u>Communications Interference</u>. The operation of transmission facilities can interfere with radio and television reception. Interference is caused by two sources: 1) corona discharge; and 2) sparks between insulators, hardware, conductors, and other equipment. (*Id.*, pp. 141-142.)

Corona discharge is a partial breakdown of air where high voltage gradients occur. The underground line will not generate corona; and the voltage of the substation and switchyard equipment is below a level that could cause corona. (*Ibid.*)

Sparks are minimized by adherence to standard utility design methods. The underground line will not produce sparks. If sparks are discharged by switchyard equipment or transition equipment in the substation, they will be located and eliminated. (*Ibid.*) This mitigation requirement is included in a Condition of Certification.

Electric and Magnetic Fields. Electric and magnetic fields are created by electrically charged particles in the wire (conductor) of the transmission line. Voltage is the force that causes the charged particles to move. When voltage is applied to a conductor, an electric field is created in the space around the conductor. Electric field intensity is measured on a thousand volts per meter (kV/m) scale. (FSA, Vol. II, p. 142.)

An electric current is created by the movement of charged particles. When current flows in a transmission line or other conductor, it creates a magnetic field in the space around the conductor. The magnetic field intensity, usually measured one meter above ground, is expressed in milligauss (mG). (Id., p. 143.)

Electric field intensity decreases rapidly with distance from transmission equipment, and is effectively shielded by large objects such as trees and houses. Magnetic field intensity also decreases with distance, but magnetic fields are not shielded by non-metallic objects. (*Ibid.*)

In this case, electric field strength levels for the underground transmission line will be insignificant because: 1) the electric field associated with the underground conductors will terminate on the metallic shield, which is an integral part of the cable; and 2) the cable shield will be grounded. In addition, the soil covering the cable will serve as a shield to contain electric fields. Therefore, electric fields outside the underground cable conduits will be minimal or non-existent. (Id., p. 144.)

To minimize exposure to magnetic field levels from the underground transmission line, the parties agreed to several magnetic field reduction measures based on "good engineering techniques" developed by the investor-owned utilities in California. (TLSN Supp. Test., p. 10.)

Magnetic field limits are not based on any established health effects but several states have developed policies regarding magnetic fields in an attempt to limit exposure to levels achievable with existing technology. (FSA, Vol. II, p. 157.) Florida has set a limit of 150 mG for 230 kV and smaller lines at the edge of the right-of-way. Since California does not specify limits, the parties in this case calculated potential magnetic fields in light of Florida's limit and concluded that the transmission line configuration described in this Decision is the best design for minimizing magnetic field exposure and comports with PG&E's EMF design guidelines. (TLSN Supp. Test., p. 17.)

As shown in TLSN FIGURE 2, ame, the transmission line is designed in a trefoil configuration carrying 1200 Amperes at a depth of four and 1/2 feet. The magnetic field level at the edge of the right-of-way is calculated at 131 mG and 50 feet from the line is about 2.77 mG. TLSN TABLE 1 below compares alternative configurations:

CPUC Decision No. 93-11-013 requires that no-cost and low-cost measures be used by the investor-owned utilities to reduce magnetic field intensity levels associated with new and upgraded transmission facilities. (TLSN Supp. Test., p. 10.)

TLSN TABLE 1
Transmission Line Alternatives EMF Comparisons

Configuration	EMF Level at Fence Line (mG) <sup>1</sup>	EMF Level 50' from Center Line (mG) <sup>2</sup>
Trefoil @ 4'6"	131	2.77
Right Angle @ 4'6"	149	2.87
Horizontal @ 4'6"	205	5.36
Trefoil @ 3'6"	169	2.78

<sup>&</sup>lt;sup>1</sup> Calculated by SFEC and verified by Staff. <sup>2</sup> Calculated by Staff.

(Source: TLSN Supp. Test., p. 17; TLSN Table 5.)

Staff concluded that the proposed transmission design will significantly reduce field intensity in areas of potential public exposure compared with an overhead design or standard horizontal underground configuration. (TLSN Supp. Test., p. 17.) Moreover, the underground transmission line is routed through the least populated areas to further reduce exposure. (*Ibid.*) SFEC will also conduct a survey of representational electromagnetic field measurements prior to construction and again after operation to confirm the original calculations. (*Ibid.*)

No other party offered evidence on this topic.

#### 4. Commission Discussion.

The expert testimony indicates there will not be any significant safety or nuisance impacts associated with aviation safety, fire hazards, audible noise, hazardous shocks, nuisance shocks, communications interference, or electromagnetic fields. The Conditions of Certification incorporate measures to ensure that SFEC will comply with applicable law in the design and construction of the transmission line.

#### FINDINGS AND CONCLUSIONS

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

- 1. The proposed underground transmission line and associated facilities will not cause significant adverse impacts to public health or safety or cause nuisance in the areas of aviation safety, fire hazards, audible noise, hazardous shocks, nuisance shocks, communications interference, or electric and magnetic fields.
- Electric field strength levels will be extremely low or non-existent because the electric field associated with the underground conductors will terminate on the grounded metallic cable shield.
- 3. Magnetic field reduction techniques have been followed in designing and locating the underground line so that the proposed trefoil configuration carrying 1200 Amperes at a depth of four and one-half feet along the least populated route is the most effective design for minimizing potential exposure to magnetic field intensity.
- 4. California law does not specify enforceable limits for magnetic fields associated with transmission lines.
- 5. Magnetic fields levels associated with the proposed transmission line are expected to be 131 mG at the edge of the right-of-way, and 2.77 mG at 50 feet from the line.
- 6. Implementation of the Conditions of Certification set forth below will ensure that the proposed transmission facilities will be designed, constructed, and operated in compliance with all applicable laws, ordinances, regulations, and standards regarding transmission line safety and nuisance as identified in APPENDIX: LORS of this Decision.

#### CONDITIONS OF CERTIFICATION

TLSN-1 The San Francisco Energy Project transmission line shall be constructed in accordance with California Public Utilities Commission (CPUC) General Order (GO)-95 and GO-128; Title 8, California Code of Regulations; the National Electrical Safety Code and Institute of Electrical and Electronic Engineers (IEEE) Guide for Safety in AC Substation Grounding, American National Standards Institute/IEEE Standard 80-1986.

<u>Verification</u>: At least 30 days before the start of construction of the project transmission line, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a letter from the responsible electrical engineer, registered in the State of California, verifying transmission line compliance with the above regulations and standards.

TLSN-2 The project owner shall make every reasonable effort to locate and correct, on a case-by-case basis, all causes of radio and television interference attributed to the project's transmission line facilities. In addition to any necessary transmission line repairs, corrective action shall include, but shall not be limited to, adjusting or modifying receivers, adjusting, repairing, replacing or adding antennas, antenna signal amplifiers, filters, or lead-in cables.

<u>Verification</u>: The project owner shall maintain written records of all complaints of radio or television interference attributed to the transmission facilities and corrective actions taken in response to any such complaints. All complaints shall be recorded, in writing, and shall include explicit notations of the corrective actions performed. Complaints which do not result in corrective action being taken or in which there is no resolution shall be described and justified. The record shall be signed by the project owner representative and also by the complainant, if possible, to indicate concurrence with the corrective action or with the justification of no corrective action. All such records shall be kept in an on-site compliance file available for inspection by the CPM and and a summary of complaint activities shall be included in the Annual Compliance Report.

TLSN-3 The project owner shall keep the powerplant switchyard and transition area (a transition area is a group of devices used to change an overhead line to an underground line or vice versa) free of waste material, rubbish, and flammable material as required by Public Resources Code sections 4292-4296 and Title 14, California Code of Regulations sections 1250-1258.

<u>Verification</u>: Compliance will be verified by CPM site inspection.

TLSN-4 The project owner shall submit to the CPM and the Bayview Hunters Point Clean Environment Coalition (Coalition) a set of representative Electric and Magnetic Field (EMF) intensity measurements taken at various points near the project transmission facilities prior to the start of construction and at the same locations after energizing the lines. The first set of measurements (prior to the start of construction) shall be contained in the first EMF survey report and the second set of measurements (after energizing the line) shall be contained in the second EMF survey report.

#### Protocol:

The project owner shall engage a consultant approved by the CPM who shall recommend locations, subject to CPM approval and in consultation with the Coalition and make representative measurements of the electric and magnetic field intensity during typical loading. The consultant shall prepare the two EMF Survey Reports which cover the San Francisco underground line, the transition station, and the PG&E Hunters Point substation, as follows:

- along the underground transmission line centerline and 10 feet laterally from the centerline;
- on the perimeter of closest public access near the project switchyard and the PG&E Hunters Point substation;
- in front of and behind specified businesses and residences along the transmission route; and.
- at known bus stops.

The CPM, in consultation with the Coalition, shall provide the project owner with a list of the minimum number of business and residential measurement locations. Each measurement shall include the date, time, transmission line loading(s) and voltage at the time of measurement, the distance from the centerline of the transmission line(s), street location, and any other information deemed pertinent to establishment of potential exposure levels. A sketch of the transmission line physical configuration and phase arrangement shall accompany the reports.

The results of the investigation shall be reported in the two EMF Survey Reports. In the event that a measured value is greater than the predicted value, an attempt shall be made to determine the reason.

<u>Verification</u>: The project owner shall file a copy of the first set of EMF measurements (in the first EMF Survey Report) with the CPM and Coalition at least 10 days prior to the start of construction of the transmission lines. The post construction measurements shall be filed in the second EMF Survey Report, with the CPM and Coalition, within 60 days after synchronization of the transmission line.

. . . 

#### TRANSMISSION SYSTEM ENGINEERING

This analysis reviews whether the project conforms with industry-accepted transmission system engineering (TSE) criteria and whether adequate transmission capacity in the existing PG&E system is available to accommodate the electricity generated by the project. (See, ER 92, p. 133.) ER 92 requires submission of an executed Special Facilities Agreement regarding project interconnection with the utility prior to certification. (Ibid.) The requirement for this agreement is fully discussed in the DEMAND CONFORMANCE section of this Decision.

#### 1. Setting.

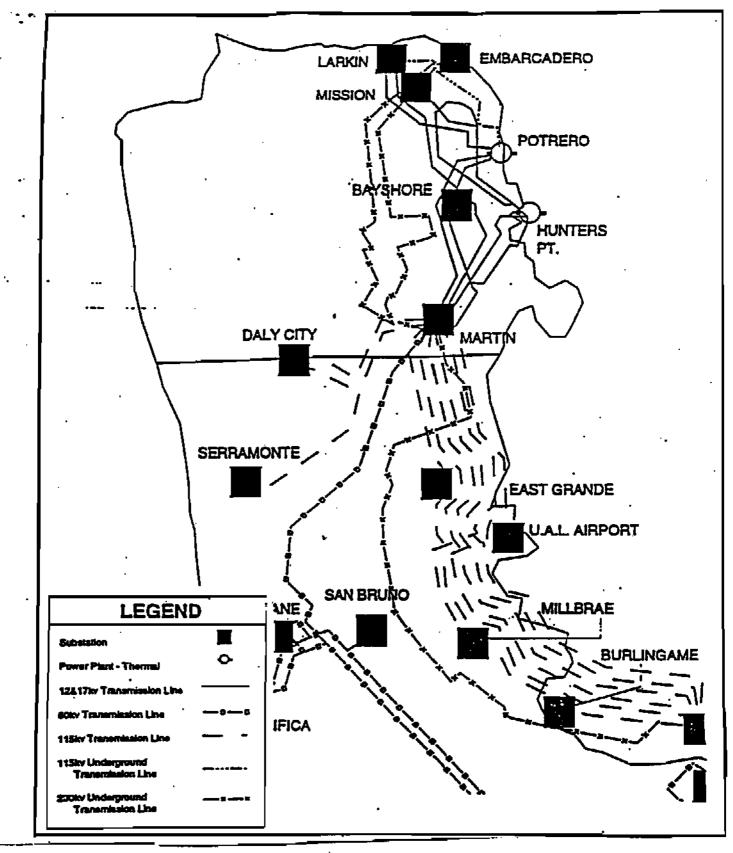
The transmission system on the San Francisco Peninsula, where the project is located, operates at 230 and 115 kilovolts (kV) and is connected to the greater PG&E system through 230 and 115 kV ties at the Martin substation. Power in the project area is generated by the PG&E-owned Hunters Point and Potrero powerplants and imported into San Francisco through the Martin substation. TSE FIGURE 1 shows the transmission system configuration in the project area. (FSA, Vol. II, pp. 106-107.)

Electricity generating resources located on the peninsula must meet the PG&E San Francisco Planning Criteria. <sup>195</sup> (AFC, p. 2-7.) These criteria address the peninsula's special reliability needs, and require that sufficient generating resources be available to serve the peninsula's energy loads in the event of a severe power loss. (*Ibid.*) PG&E's San Francisco Operating Criterion requires that sufficient local generating resources be operating at any time to serve minimum generation requirements in the event of a major system disturbance. (FSA, Vol. II, p. 107.) Currently, the minimum generating requirements are set at 370 MW. <sup>196</sup> (*Ibid.*)

<sup>195</sup> The Planning Criteria were developed by PG&E and are not mandated by federal or state law.

Both the Planning and Operating Criteria are discussed at length in the ALTERNATIVES section of this Decision.

TSE FIGURE 1
Transmission System Configuration in the Project Area



(Source: FSA, Vol. II, p. 108, Figure TSE-2.)

#### 2. Potential Impacts.

The SFEC project, as a new generating resource, could cause power overloads to the existing transmission system. However, the evidence does not indicate that the project is likely to adversely affect PG&E's generating or transmission outlet capabilities.

#### Summary of Evidence.

The project's transmission facilities include a new 115 kV switchyard and an underground 115 kV transmission line<sup>197</sup> that extends about 4,020 feet from the site to PG&E's Hunters Point substation; this is an existing substation with a 115 kV ring bus. (AFC, p. 3-80; Apr. 3, 1995 letter from SFEC.)

The project output will be 240 MW. To accommodate generation above the normal operating capacity of 240 MW, the step-up transformers will be sized at 315 megavolt amperes, which is the equivalent of about 283 MW at 0.9 power factor. The parties agreed that the transformer is adequately sized to transfer the expected maximum power to the transmission circuit under normal conditions and to prevent overloads in emergency conditions. The project switchyard components therefore have sufficient ratings to accommodate all operating conditions. (FSA, Vol. II, p. 117; AFC, p. 3-80.) These components include:

- One 115/18 kV generator step-up transformer;
- One 115/13.8 kV generator step-up transformer;
- Two 115 kV power circuit breakers and disconnect switches;
- One 12.47/4.160 kV backup power transformer;
- One 13.8/4.160 kV auxiliary transformer;
- One termination structure with three terminations each.<sup>198</sup> and.
- Three lightning arresters. (FSA, Vol. II, p. 117.)

SPEC proposed an underground transmission system instead of overhead transmission lines to minimize environmental impacts such as land use, visual, safety, and nuisance concerns. (AFC, p. 3-80.)

<sup>&</sup>lt;sup>198</sup> Staff amended its TSE testimony in Supplemental Testimony filed at the July 13, 1995 hearing. The testimony originally indicated "two" termination structures instead of "one." (See, 7/13/95 RT 4; TSE Supp. Test., p. 2.)

The underground transmission system includes a three-phase single circuit cable system with one 2,500 thousand circular mil copper conductor for each phase. At 115 kV, the power transfer capability of the underground circuit is 278 megavolt amperes at 0.9 power factor. This capability is adequate to transfer the project's 240 MW. Therefore, according to the expert testimony, the transmission line design conforms with the CPUC's General Order 128, "Rules for Construction of Underground Electric Supply and Communications Systems." (FSA, Vol. II, pp. 117, 123 [TSE Supp. Test., pp. 2-3]; AFC, p. 3-87.)

The interconnection is designed to meet PG&E's system reliability criteria and interconnection requirements.<sup>200</sup> (AFC, p. 3-89; FSA, Vol. II, p. 119.) Interconnection facilities include new equipment and modifications to the substation as follows (AFC, Vol. II, p. 119):

- One 115 kV circuit breaker at the substation:
- Reconductor approximately 730 circuit feet of 1,000 thousand circular mil copper bus circuits:
- Install 115 kV suspension bus with 2,300 thousand circular mil all aluminum conductor:
- Install a new dead-end motor-operated switch and structure to terminate the project's transmission line; and
- Relocate the P1106 12 kV feeder outlet at the substation to avoid conflict with the project transition station.

<sup>&</sup>lt;sup>100</sup> A thousand circular mil (kemil) is a unit of the conductor's cross-sectional area, which is divided by 1,273 to obtain the area in square inches.

<sup>&</sup>lt;sup>260</sup> To meet the requirements of PG&E's Cogeneration and Small Power Production Interconnection Standards (Rule No. 21) and to help maintain voltage in the area, the project is required to have the capability of continuously maintaining a power factor between 0.9 lagging and .095 leading at any voltage level within five percent of 115 kV. (FSA, Vol. II, p. 121.) The expert testimony indicates that the project is designed to conform with PG&E's engineering and interconnection standards. (Id., pp. 121-135.)

The 115 kV outlet capability of the Hunters Point substation is rated at 544 MW. Presently, the total generating capacity of the existing PG&E powerplants at Hunters Point is about 427 MW. With the SFEC project, the total would be 677 MW. As a result, about 133 MW could not be simultaneously scheduled. (FSA, Vol. II, p. 110.)

To ensure that total power production at Hunters Point will remain below 544 MW, PG&E's Power Plant Units 2 & 3 (214 MW) will not be operating whenever the SFEC (240 MW) project is generating power. The output increase from the substation's overall power flow would therefore be limited to about 36 MW (250 MW-214 MW)<sub>7</sub>, which This is similar to the power flow when Plants Units 2 and 3 are operating and therefore considered minimal in the expert testimony. (Ibid.) See, TSE TABLE 1 below.

TSE TABLE 1
Hunters Point Power Plant Generating and Outlet Capabilities<sup>201</sup>

Generating Capability

**MWOutletMW** 

Power Plant Unit 1	50	PX-1	140
Power Plant Units 2 & 3	214	PX-2	144
Power Plant Unit 4	163	HP-1	130
SFEC Project	250	HP-3	130
TOTAL with SFEC Project	677	TOTAL	544
Existing Conditions	427		
Units 2 & 3 Off and	463		•

(Source: FSA, Vol. II, p. 110, TABLE TSE-L)

Project On-line

Existing conditions at the Hunters Point substation outlets show no overloads and that all system elements are within normal ratings under normal conditions. Operating outlets are labeled HP-1, HP-3, PX-1 and PX-2. TABLE TSE-1 shows outlet capability under existing conditions. With any one outlet circuit out of service, one of the other circuits may be expected to overload. The overloads that may occur are currently planned to be eliminated through operating measures such as transmission switching and/or generation reduction. The most severe overload is a loading of 40 percent over normal for circuit PX-1. This overload may occur in the unlikely event that cable PX-2 is out of service, and Hunters Point Units 2, 3, and 4 are operating at maximum ratings. (FSA, Vol. II, p. 107.)

Under normal operating conditions,<sup>202</sup> system losses will be reduced when the project is on-line. Since the project contributes about 36 MW to local generation, it would reduce imports into the peninsula. The project is, therefore, expected to result in some savings of system losses compared to importing power to the peninsula load centers. (FSA, Vol. II, p. 121.)

Staff recommended that SFEC be permitted to submit an executed Special Facilities Agreement with PG&E after certification but before construction because sufficient information has been provided and there are no significant, costly, or geographically remote improvements required of PG&E to accommodate the project. (TSE Supp. Test., p. 1, pp. 3-5.)

# 4. Commission Discussion.

The uncontroverted evidence of record, as amended by Staff in its TSE Supplemental Testimony, indicates that the project conforms with the relevant engineering criteria for transmission system engineering and interconnection, and that adequate capacity is available to accommodate the power generated by the project. The Commission will allow SFEC to submit an executed Special Facilities Agreement with PG&E after certification but within 30 days prior to the start of construction because sufficient information about the interconnection has been provided and there are no significant improvements necessary to accommodate the project. The Conditions of Certification incorporate the design and contract requirements to ensure compliance.

Normal operation is when all customers receive the power they are entitled to without interruption and at steady voltage, and no element of the transmission system is loaded beyond its continuous rating. The normal operating scenario in this case is when the project is on-line and the Hunters Point Units 2 & 3 are not operating.

#### FINDINGS AND CONCLUSIONS

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

- The proposed 115 kV transmission line is designed as an underground facility to minimize potential environmental concerns such as land use, visual, safety, and nuisance factors.
- 2. The electrical transmission facilities associated with the project conform with industry-accepted transmission system engineering and interconnection standards.
- 3. The project's interconnection to the Hunters Point substation is designed to meet PG&E's system reliability criteria and interconnection requirements.
- 4. The existing PG&E system has adequate transmission capacity to accommodate the electricity generated by the project.
- 5. Normal operating conditions will occur whenever the SFEC project is on-line and PG&E's at Hunters Point Units 2 and 3 are not operating to ensure that power output remains within the 544 MW outlet capability of the Hunters Point substation.
- 6. SFEC may file an executed Special Facilities Agreement with PG&E after certification but within 30 days prior to the start of construction because sufficient information about the interconnection exists in the record and there are no significant interconnection improvements necessary to accommodate the project.
- 7. The Conditions of Certification ensure that the project will conform with the applicable design and interconnection requirements.

#### CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall not begin construction until the Special Facilities Agreement has been executed.

<u>Verification</u>: No later than 30 days prior to the start of construction, the project owner shall provide copies of the executed Special Facilities Agreement to the California Energy Commission's Compliance Project Manager (CPM).

- TSE-2 The project owner shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to the requirements a. through f. listed below.
  - a. The switchyard will include two main power transformers. The transformers will be designed to carry 315 megavolt amperes. Transformer losses will be considered in the selection of the transformer;
  - b. The 115 kilovolt cables will form a single circuit (radial tie) exiting the switchyard and proceeding to a transition station to be located on Pacific Gas and Electric Company (PG&E) property at the Hunters Point substation. At that point the radial tie will interconnect to the existing Hunters point substation. The outlet route shall not substantially deviate from the approved corridor route;
  - c. The underground cable will be one 2,500 thousand circular mil solid dielectric cable. The cable will have a normal capacity of 278 megavolt amperes;
  - d. The transmission facilities shall meet or exceed the requirements of California Public Utility Commission (CPUC) General Order 128;
  - e. The Interconnection facilities shall be designed, operated, and maintained in accordance with the Pacific Gas and Electric Company PG&E Special Facilities Agreement; and,
  - f. No other generating unit or transmission circuit may be connected to the project switchyard or outlets without prior authorization of the California Energy Commission Compliance Program Manager (CPM).

<u>Verification</u>: No later than 60 days prior to planned construction of the transmission facilities, the project owner shall submit for approval to the CPM electrical one-line diagrams signed and sealed by a registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements 2a, 2b and 2c above.

TSE-3 The project owner shall inform the CPM of any impending changes which may not conform to the TSE-2 requirements and request approval to implement such changes.

<u>Verification</u>: No later than 30 days prior to planned construction of transmission facilities, the project owner shall inform the CPM of any impending changes which may not conform to TSE-2 requirements and request approval to implement such changes. A detailed description of the proposed changes and complete engineering, environmental, and economic rationale for the

changes shall accompany the request. No changes shall be made without written approval of the CPM.

TSE-4 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction and any subsequent CPM-approved changes thereto, to ensure conformance with California Public Utility Commission the CPUC's General Order 128 and Pacific Gas and Electric Company PG&E criteria. In case of non-conformance, the project owner shall inform the CPM in writing within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

<u>Verification</u>: Within 60 days following first successful synchronization of the project, the project owner shall transmit to the CPM an engineering description(s) and one-line drawings of the "as-built" facilities, signed and sealed by a registered electrical engineer in responsible charge. A statement attesting to conformance with California Public Utility Commission General Order 128 and Pacific Gas and Electric Company criteria shall be concurrently provided.

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### MISCELLANEOUS FINDINGS

## Community Benefits Package

Although SFEC's commitment to offer a community benefits package is voluntary and not as mitigation for an established impact, the Commission views the community benefits package as essential in its determination in the ENVIRONMENTAL JUSTICE section that the project benefits outweigh the project burdens. To memorialize SFEC's commitment in this Decision, the Commission makes the following findings:

- San Francisco Energy Company has committed to establishment of a community benefit fund in the total amount of approximately \$13 million, funded over the first 17 years of the operation of the facility.
- 2. San Francisco Energy Company has committed to the establishment of an open membership, community based organization to make recommendations for the disbursement of the fund for the benefit of the Bayview Hunters Point community.
- San Francisco Energy Company's commitments to creation of the community benefit fund and establishment of an open membership, community based organization to make recommendations for disbursement of the fund are conditional for the Commission's determination that the project's benefits outweigh its burdens as to the Bayview Hunters Point community.

### Project On Line Date

As discussed in the DEMAND CONFORMANCE and ALTERNATIVES sections, PG&E's 1993 Biennial Resource Plan Update bid specifications require the facility to be on-line by June 1, 1997. Based upon the evidence of record, there is a reliability based physical need for the facility to be operational prior to Hunters Point Units 2 and 3 being placed in long term reserve as of December 31, 2009. Prior to 2001, there is an economic need for the facility. While the Commission believes there will be an economic benefit to PG&E's ratepayers from the deployment of the facility beginning in 1997, the Commission also believes that there is no compelling public need for a 1997 on line date. Therefore, the Commission makes the following finding:

1. There is no compelling public need for the facility to be on line by June 1997 in accordance with the bid specifications of PG&E's 1993 Bionnial Resource Plan Update suction.

## **GROWTH INDUCING IMPACTS**

Discussions of the project's potential for growth inducing impacts are found in various sections of this Decision and are summarized here. The Commission's discussion in the DEMAND CONFORMANCE section confirms that this project responds to existing electricity needs rather than planning for or inducing new growth in electricity use. This need has been identified through the Commission's Electricity Report, which comprehensively assesses the State's electricity needs and identifies the extent to which that need can be met without adding additional generating capacity. In particular, the CPUC's BRPU process identified PG&E's proposed repowering of Hunters Point Units 2 and 3 as deferable resources, meaning that SFEC as the winner of the auction will provide the electricity which would have been provided by repowered Units 2 and 3. PG&E plans to place Units 2 and 3 in long term reserve in 2001. Thus, since the project addresses current demand, it will not foster additional new growth in electricity usage, per se, nor lead to increased electricity usage.

The project will supply steam to SF Thermal, to be used for thermal regulation of buildings in the downtown San Francisco area. This existing customer base is currently served by steam which SF Thermal produces using boilers. The change in steam sources is not expected to cause or facilitate significant growth. The Commission also considered the short-trunk natural gas pipeline to the project and concluded there would be no growth inducement.

In addition, the Commission's discussion in SOCIOECONOMICS finds that the SFEC project will not cause an adverse impact upon the community or its services, thus indicating no overall growth inducing impacts. For example, the project will not cause a growth in either permanent or temporary resident population; the project will not add any significant demand on local police or fire services, housing, medical services, utilities, water supply, or waste/water disposal. Thus, the project does not induce future development.

The project will provide economic benefits to the community through lease payments and taxes, as well as the community benefits package offered by SFEC. In addition, SFEC has

pledged to employ local residents during the construction and operation of the facility. While the Commission views these economic impacts upon the community as beneficial, the relative scale of this project to the City-wide or local community economy confirms that the project will not have any significant growth inducing impacts.

### COMPLIANCE

The California Energy Commission has been certifying and monitoring compliance of new powerplants for 20 years and has developed a refined and sophisticated process for compliance monitoring. This process has proven to be effective in ensuring that all approved powerplant projects, regardless of type, size, or location, are designed, constructed, and operated in the manner proposed and that all proposed mitigation is carried out as intended.

This has been accomplished through the combination of thorough conditions and methods of verification, periodic Staff site visits and inspections, and additional site visits and inspections by delegated local agencies. The informal dispute resolution procedure has worked in the past to the satisfaction of members of the public, developers, and other agencies.

### COMPLIANCE PLAN AND MONITORING PROGRAM

The San Francisco Energy Company project Compliance Plan and Monitoring Program (Compliance Plan) has been established as required by Public Resources Code section 25532. The Plan provides a means for assuring that the facility is constructed and operated in conjunction with air and water quality, public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the Commission and specified in the written Decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of three elements:

- (1) General compliance conditions beginning in this section which: set forth and explain 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; state procedures for settling disputes and making post certification changes; and state the procedures for verification, including periodic reports and any other administrative procedures that are necessary to verify that all the conditions will be satisfied; and
- (2) Specific Conditions of Certification which are found following each technical area and contain all certification requirements including the measures required to mitigate any and all potential adverse project impacts to an insignificant level.

- Each Condition of Certification also includes a verification provision which describes the method of verifying that the condition has been satisfied.
- (3) Special Compliance Procedures, explained below, which will inform and involve the local community concerning various aspects of the project's design, construction, and operation.

# Special Compliance Procedures

Prior to the start of construction, the project owner shall submit to the Commission's Compliance Project Manager (CPM) for review a program for communication to the local community regarding progress in the construction (and, as appropriate, operation) of the project and opportunities for community feedback regarding these activities. The project owner's program shall remain in effect throughout the periods of construction and operation of the project and shall include the following elements:

- A commitment by the project owner to participate with local business groups in promoting commercial opportunities for local merchants in connection with the project;
- Publication by the project owner in the New Bayview, Potrero View, and San Francisco Independent a report of the status of project construction activities and activities planned for the near future; publication shall be at a frequency established by the project owner with the concurrence of the CPM;
- Publicly-noticed evening meetings in the local community by the project owner
  to provide a more detailed discussion of project activities, discuss community
  concerns/complaints, and respond to questions. Such meetings shall be at a
  frequency determined by the project owner to be appropriate to the level of the
  construction activity;
- Publication by the project owner of telephone numbers for public complaints both to the project owner and to the CPM, and a commitment by the project owner to provide a response within 48 hours, with a report of those complaints and responses provided to the CPM in a monthly status report;
- As provided for in the Memorandum of Understanding between the Bayview Hunters Point Clean Environment Coalition and San Francisco Energy Company (August 24, 1995), the project owners shall establish a program and policies for preferential local hiring and local purchase of goods and services to the extent consistent with federal and state law as follows:

- In cooperation with the Building Trade Unions, initiate a preference program to hire qualified Bayview Hunters Point community union construction workers and to implement an apprentice program for local workers.
- Initiate a screening and preference program to hire qualified local operations and maintenance personnel.
- Institute a clearinghouse for goods and services used by the facilities that may be available in the Bayview Hunters Point community.
- Establish a program to inform local merchants and service providers how to take advantage of the local preference policies.

## The Bayview Hunters Point Clean Environment Coalition (Coalition) Responsibilities

## A. Purpose

The Coalition, in consultation with the CPM, will review plans, reports, etc., submitted by the project owners to the Commission pursuant to the conditions of certification.

The Coalition may initiate or receive inquiries regarding compliance with the conditions of compliance, certification, or any other matter relating to the construction or operation of the project. The Commission shall undertake any necessary and appropriate investigation and respond to any inquiry within 14 calendar days of receipt of the inquiry or complaint. The response shall include but not be limited to the following:

- 1. A description of the inquiry or complaint;
- A statement of the steps taken to investigate the inquiry or complaint;
- A listing of the person or persons responsible for responding to the inquiry or complaint;
- A determination of the validity of the inquiry or complaint and the reasons therefore;
- 5. What further time or additional investigation is required, if any, to determine the validity of the inquiry or complaint:

- 6. The proposed remedies, if any; to respond to the inquiry or complaint;
- 7. The date by which any remedies shall be instituted or implemented; and,
- 8. The party or parties who shall be responsible for instituting or implementing the remedies.

The Commission may incorporate any relevant material or response offered by the project ewners to an inquiry, but incorporating any such material or response shall not relieve the Commission of any responsibility to make an independent investigation as described herein above.

The Coalition will serve as a clearinghouse (i.e., information dissemination) for preferential local hiring and purchase of services and materials as prescribed by the "Special Compliance Procedure" of the Compliance Plan and Monitoring Program.

The Coalition shall have no enforcement powers, but may advise the Commission or other agencies that have jurisdiction over the project that it does not find the response to an inquiry sufficient or adequate. In the event that the Commission finds a response insufficient or inadequate, it may request a further response from the appropriate agency. Said agency shall provide a further response in not less than 14 calendar days after such a request is received by the agency.

Independent of the above procedures, the Coalition may file a complaint as prescribed by California Code of Regulations, title 20, section 1230, et seq. ("Complaints and Investigations").

The Coalition shall determine its form of organization which may include but is not limited to: an association, a non profit corporation, or other form of legal entity. The Special Compliance Procedures are not mandatory as to the Coalition. The Coalition may petition in writing to the Commission to be permanently relieved of any or all responsibilities pursuant to the Special Compliance Procedures or to be disbanded.

The project owner, the CPM, or any other agency may, for cause, petition the Commission to limit the responsibilities of the Coalition.

### B. Payment of Administrative Costs

Reasonable administrative/elerical costs-(i.e., agenda preparation, mailing of meeting notices, minutes) will be borne by the project owners as prescribed in the Special Compliance Procedure of the Compliance Plan and Monitoring Program.

### C. Responsibilities of the Commission and the Project Owner

<u>Commission</u>. The Commission has primary compliance monitoring and enforcement responsibility as outlined in the Compliance Plan and Monitoring Program. Interaction with the Coalition is part of the informal dispute resolution procedures.

Project Owner: The project owner will be responsible for providing information to the Coalition regarding local hiring and purchase of goods and services as prescribed by the Special Compliance Procedures of the Compliance Plan and Monitoring Program. The project owner will work with the Coalition to establish any policies and/or programs to the extent required by the Commission's Conditions of Certifications. The project owner will coordinate with the Coalition for at least one quarterly on site visit and will provide reasonable access to data and files. The project owner will be required to respond to requests of the Coalition within 2 working days of receipt of the request.

### D. Conduct of Meetings

Meetings will be called as deemed necessary by the Coalition pursuant to the procedures outlined in the Brown Act. (Gov. Code, § 54950 et seq.)

Notice will be provided to the members of the and to other community members who have requested to be on the Coalition's and Commission's mailing lists.

The Conlition may select a Chair and Vice Chair, and may establish rules of procedure for the conduct of the meetings.

All meetings shall be open to the public and shall be held within the Bayview Hunters community to the extent feasible.

### GENERAL COMPLIANCE CONDITIONS

- I. Compliance Project Manager Responsibilities
  - A. A CPM will oversee the compliance monitoring and shall be responsible for:

- 1) Ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission's Decision;
- 2) Resolving complaints;
- Processing post-certification changes to the Conditions of Certification and project description;
- 4) Documenting and tracking compliance filings; and,
- 5) Ensuring that the compliance files are maintained and accessible.

The CPM works under the general direction of the Deputy Director of the Energy Facilities Siting and Environmental Protection Division and will consult with the appropriate responsible agencies and Commission management when resolving disputes and complaints and processing amendments.

B. Pre-Construction and Pre-Operation Compliance Meeting

The CPM may schedule pre-construction and pre-operational compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Commission's Conditions of Certification to confirm that they have been met, or if they have not been met, to make arrangements to ensure that the proper action is taken. In addition, these meetings shall ensure, to the extent possible, that construction and operation are not delayed due to oversight or inadvertence and to preclude any last-minute, unforeseen issues from arising.

- C. The Commission shall maintain as a public record in either the Compliance file or Docket file for the life of the project (or other period as required):
  - 1) All documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
  - 2) All monthly and annual compliance reports filed by the project owner;
  - 3) All complaints of noncompliance filed with the Commission; and,
  - 4) All petitions for project or condition changes and the resulting Staff or Commission action taken.

# II. Project Owner Responsibilities

It is the responsibility of the project owner to ensure that the general compliance conditions and the Conditions of Certification are satisfied. The general compliance conditions regarding post certification changes specify measures that San Francisco Energy Company (project owner) must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the Conditions of Certification or the general compliance conditions may result in reopening of the case and revocation of Commission certification, or other action as appropriate.

### A. Access

The CPM, designated Commission staff, and delegated agencies or consultants, shall be guaranteed and granted unrestricted access to the powerplant site, related facilities, project-related staff, and the records maintained on-site for the purpose of conducting audits, surveys, inspections, or general site visits.

# B. Compliance Record

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

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

### C. <u>Compliance Verifications</u>

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

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

All submittals shall be addressed as follows:

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

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

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

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

- Reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific Conditions of Certification;
- 2) Appropriate letters from delegate agencies verifying compliance;
- 3) Commission staff audit of project records; and,
- 4) Commission staff inspection of mitigation and/or other evidence of mitigation.

# D. Compliance Reporting

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Commission's Decision. During construction, the project owner or authorized agent shall submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. The majority of the

Conditions of Certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

A compliance matrix is to 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 compliance conditions in a spreadsheet format. The compliance matrix must identify:

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

Completed or satisfied conditions do not need to be included in the monthly or annual compliance reports after they have been identified as completed/satisfied in at least one monthly-and or in one annual compliance report.

# E. Monthly Compliance Report

During construction of the project, the project owner or authorized agent shall submit Monthly Compliance Reports within 10 working days after the end of each reporting month. Reporting outside the monthly framework, if required by specific Conditions of Certification, is not precluded. Monthly Compliance Reports shall be numbered consecutively, and contain at a minimum:

 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 and submittals required as verification of conditions (these must be identified in the transmittal letter);
- An updated compliance matrix including the status of each condition; i.e., not started, in progress, late, on schedule, or completed;
- 4) A list of compliance requirements completed during the reporting period;
- 5) A list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;
- A cumulative listing of any changes to compliance activities which have resulted from negotiations between the project owner and the Commission or its delegate agencies (Note: changes to conditions, verifications, or other terms of compliance must be approved by either the Commission or CPM prior to implementation);
- 7) A monthly listing of any filings or permits issued by other governmental agencies;
- A projection of project compliance activities scheduled during the next two months;
- 9) A listing of the month's additions to the on-site compliance file; and
- 10) Any requests to dispose of items that are required to be maintained in the project owner's compliance file.

The first Monthly Compliance Report is due in the first month following Commission approval of the project. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the Key Events Table at the end of this Plan.

# F. Annual Compliance Report

After the air district has issued a Permit to Operate, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each calendar year of commercial operation and are due to the CPM by February 15th of the year immediately following the reporting year. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. This does not preclude reporting outside the annual report framework if required by specific conditions. Each Annual Compliance Report shall be identified by year and shall contain the following:

- 1) An updated compliance matrix;
- 2) A summary of the current project operating status and explanation of any significant changes to facility operations;
- Documents and submittals required as verification of conditions (these
  must be identified in the transmittal letter);
- 4) A cumulative listing of changes to the facility as a result of the Commission's post-certification change/amendment process;
- 5) An explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
- A listing of any filings made or permits issued by other governmental agencies during the year;
- A projection of project compliance activities scheduled during the next year; and
- 8) A listing of the year's additions to the on-site compliance file.

# G. Confidential Information

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

### H. Facility Closure

The project owner shall file a closure plan for consideration and approval by the Commission at least 12 months prior to commencing closure activities. The plan shall describe actions to be taken to meet Conditions of Certification and all applicable laws, ordinances, regulations, and standards and any local and regional plans in existence at the time of facility closure for the powerplant, the site, fill areas, access roads, equipment, buildings, and other related facilities constructed as part of the project.

Closure activities shall not commence until Commission approval of the closure plan is granted. The project owner shall comply with the approved closure plan and any conditions of closure established by the Commission.

# IV. Delegate Agencies

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

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

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

### V. Noncompliance

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 Commission pursuant to Title 20, California Code of Regulations section 1230 et seq., but in many instances the noncompliance can be resolved by the procedure described in Section VII.

### VI. Enforcement

The Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Commission Decision.

Moreover, to ensure compliance with the terms and Conditions of Certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

# VII. Informal Dispute Resolution Procedure

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

The procedure usually precedes the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations section 1230 et seq., but is not intended to be a substitute for, or prerequisite to it. The informal procedure may not be used to change the terms and Conditions of Certification as approved by the Commission.

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

# A. Request for Informal Investigation

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

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner, by telephone and letter, of the allegation. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within 7 working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the

project owner to provide an initial report, within 48 hours, followed by a written report filed within 7 days.

# B. Request for Informal Meeting

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

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

# C. Role of The Bayview Hunters Point Clean Environment Coalition (Coalition) Responsibilities

### A. Purpose

The Coalition is intended to serve as a clearinghouse (i.e., information dissemination) for preferential local hiring and purchase of services and material as described by the "Special Compliance Procedure" of the Compliance Plan and Monitoring Program. In addition, the Coalition shall receive plans, reports, etc., submitted by the project owners to the Commission pursuant to the Conditions of Cartification. The Coalition shall have no enforcement powers, but may provide comment to the CPM and/or Commission on the adequacy of such documents.

The Coalition may initiate or receive inquiries regarding compliance with the Conditions of-compliance, Certification, or any other matter relating to the construction or operation of the project. The CommissionCPM shall undertake any necessary and appropriate investigation and respond, to the extent possible, to any inquiry within 14 calendar days of receipt of the inquiry or complaint. The response shall include but not be limited to the following:

- 1. A description of the inquiry or complaint;
- A statement of the steps taken to investigate the inquiry or complaint;
- A listing of the person or persons responsible for responding to the inquiry or complaint;
- 4. A determination of the validity of the inquiry or complaint and the reasons therefore:
- 5. What further time or additional investigation is required, if any, to determine the validity of the inquiry or complaint;
- 6. The proposed remedies, if any, to respond to the inquiry or complaint;
- 7. The date by which any remedies shall be instituted or implemented; and,
- 8. The party or parties who shall be responsible for instituting or implementing the remedies.

The CommissionCPM may incorporate any relevant material or response offered by the project owners to an inquiry, but incorporating any such material or response shall not relieve the CommissionCPM of any responsibility to make an independent investigation as described herein above.

The Coalition will serve as a clearinghouse (i.e., information dissemination) for preferential local hiring and purchase of services and materials as prescribed by the "Special Compliance Procedure" of the Compliance Plan and Monitoring Program.

The Coalition shall have no enforcement powers, but may advise the Commission or other agencies that have jurisdiction over the project that it does not find the response to an inquiry sufficient or adequate. In the event that the Commission finds a response insufficient or inadequate, it may request a further response from the appropriate agency. Said agency shall provide a further response in not less than 14 calendar days after such a request is received by the agency.

Independent of the above procedures, the Coalition may file a complaint as prescribed by California Code of Regulations, Title 20, section 1230, et seq. ("Complaints and Investigations").

The Coalition shall determine its form of organization which may include but is not limited to: an association, a non profit corporation, or other form of legal entity. The Special Compliance Procedures are not mandatory as to the Coalition. The Coalition may petition in writing to the Commission to be permanently relieved of any or all responsibilities pursuant to the Special Compliance Procedures or to be disbanded.

The project owner, the CPM, or any other agacy may, for cause, petitioin the Commission to limit the responsibilitie of the Coalition.

# B. Payment of Administrative Costs

Reasonable administrative/clerical costs (i.e., agenda preparation, mailing of meeting notices, minutes) will be borne by the project owners as prescribed in the Special Compliance Procedure of the Compliance Plan and Monitoring Program.

# BG. Responsibilities of the Commission and the Project Owner

<u>Commission</u>. The Commission has primary compliance monitoring and enforcement responsibility as outlined in the Compliance Plan and Monitoring Program. Interaction with the Coalition is part of the informal dispute resolution procedures.

Project Owner: The project owner will be responsible for providing information to the Coalition regarding local hiring and purchase of goods and services as prescribed by the Special Compliance Procedures of the Compliance Plan and Monitoring Program. The project owner will work with the Coalition to establish any policies and/or programs to the extent required by the Commission's Conditions of Certifications. The project owner will coordinate with the Coalition for at least one quarterly on-site visit and will provide reasonable access to data and files. The project owner will be required to respond to requests of the Coalition within 2 working days of receipt of the request.

# DC. Conduct-of Meetings Procedures

The Coalition shall determine its form of organization which may include but is not limited to: an association, a non-profit corporation, or other form of legal entity. The Special

Compliance Procedures are not mandatory as to the Coalition. The Coalition may petition in writing to the Commission to be permanently relieved of any or all responsibilities pursuant to the Special Compliance Procedures or to be disbanded.

### B Payment of Administrative Costs

Reasonable administrative/clerical costs (i.e., agenda preparation, mailing of meeting notices, minutes) will be borne by the project owners as prescribed in the Special Compliance Procedure of the Compliance Plan and Monitoring Program.

Meetings will be called as deemed necessary by the Coalition pursuant to the procedures outlined in the Brown Act. (Gov. Code, § 54950 et seq.)

Notice will be provided to the members of the public and to other community members who have requested to be on the Coalition's and Commission's mailing lists.

The Coalition may select a Chair and Vice-Chair, and may establish rules of procedure for the conduct of the meetings.

All meetings shall be open to the public and shall be held within the Bayview Hunters community to the extent feasible.

## VIII. Formal Dispute Resolution Procedure

If either the project owner, Commission staff, or the party requesting an investigation is not satisfied with the results of said informal meeting, such party may file a complaint or a request for an investigation with the Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Commission's delegate agents.

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

# IX. Post Certification Changes to the Commission Decision

The project owner must petition the Commission, pursuant to Title 20, California Code of Regulations section 1769, if it proposes to: 1) delete or change a Condition of Certification; 2) modify the project design or operational or performance requirements; or 3) transfer ownership or operational control of this facility.

# KEY EVENT LIST

PROJECT		DATE ENTERED
DOCKET	NUMBER	PROJECT MANAGER

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

# APPENDIX: ALTERNATIVES

FSA Alternatives Appendix B

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### 1. Pier 29/31

This site is at Pier 29 and 31. The Embarcadero is on the west and the San Francisco Bay is on the east. There are two buildings to the north and south of the site, respectively, each identified by Conifer/Trent Materials Packaging Company signs. Between the two buildings is a laydown/storage area, sufficiently large to locate a three acre power plant site. The area consists of mixed land uses but is zoned for small industrial uses (M-1). The warehouses are over water, and mounted on stilts. The site is across the street from condominiums. From the warehouse is a direct view of Coit Tower and Telegraph Hill to the northwest. There is a residential/commercial combined use area, immediately west, across The Embarcadero. The residential population density is greater than the Port Site and maybe greater than or equal to the Innes Avenue site. Therefore, this site was eliminated from further consideration as it did not seem likely that it would reduce or eliminate any of the potential impacts of the Innes Avenue or Port sites.

## 2. Pier 39

There are two open space areas adjacent to Pier 39 on The Embarcadero. The open spaces are approximately three + acres each. They are public areas, and developed as parks. Therefore, these two sites were eliminated from further consideration as alternative sites.

### 3. Muni Bus Yard

The Muni Bus yard is identified as a public district area on the San Francisco zoning maps. The Muni Bus yard is approximately three + acres bounded by Beach Street on the north, Stockton Street on the east, North Point Street to the south, and Powell Street on the west. The site is currently used as a Muni Bus yard. The site is bounded by commercial uses on the north, east and west. However, immediately across the street to the south is a residential area consisting of houses and apartment uses. In addition, in close proximity in other directions are additional residential areas. Therefore, this site was eliminated from further consideration as an alternative site.

### 4. Across the street from the Muni Bus Yard

This site is adjacent to the Muni Bus yard, to the southeast, and is bounded by North Point Street on the north, Kearney Street on the east, Francisco Street to the south, and Midway Street on the west. Judging by zoning maps, this site is a public area which is greater than 3 + acres. However, it is not a lot, the area is spread over four city blocks, divided by the above streets. All of the public area is occupied by buildings or elevated automobile garages. Therefore, this site was eliminated from further consideration as an alternative site.

## 5. Lot Number 3739

This site is an empty lot (identified as lot number 3793 on the San Francisco zoning map). The site is bounded by Townsend Street on the northwest, shared border on the Northeast, King Street to the southeast, Second Street on the southwest and it is abutted on the northwest by the Steamboat Point Apartments at 49 Townsend Street. The land uses immediately to the northwest are related to service, and light industry or business offices. The lot itself is zoned for heavy industrial uses (M-2). However, the lot is smaller than three acres. Because of its size and

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immediate proximity to residential housing, this site was eliminated from further consideration as an alternative site.

### 6. Pier 46

Pier 46 was identified because the area is public lands. Pier 46 contains the Port Authority Maintenance Shops. It is bounded by Berry Street to the northwest. The Embarcadero to the north, South Beach Yacht Harbor to the east and China Basin to the south. Since the site is currently occupied and there are not three acres available for power plant use, it was eliminated from further consideration.

## 7. Moscone Center

The area around the Moscone Center is zoned for small industrial uses, (M-1). The area is of Folsom Street and Second Street on the north and Harrison Street and Third Street on the south. There are no empty sites in this area, and the area is currently occupied by buildings identified as PacTel and Moscone Center. Therefore, this site was eliminated from further consideration.

# 8. SF Thermal

The site is located at 460 Jessie Street, and is the site occupied by SF Thermal. Around the corner is the Old Mint building, police and fire stations. The unoccupied remaining lot is smaller than 3 acres. Furthermore, the site is adjacent to residential hotels bordering Sixth Street. This site does not meet the size requirement of 3 acres and therefore was eliminated from further consideration.

# 9. San Francisco Police Department Impound Yard

In the area around Twentieth and Illinois Streets, there are many old buildings, some are unoccupied, and others are used as warehouses or for industrial purposes. There is a San Francisco Police Department impound yard across the street. Because there are no apparent empty three acre sites, this location was eliminated from further consideration.

### 10. City Tow Yard

At Pier 70, east of Twenty-Second and Illinois Streets, is a yard occupied by the City Tow Company. There is no apparent vacant 3 acre sites in the area, and therefore this site was eliminated from consideration.

### 11. Jerrold Avenue

There is a heavily industrialized area around Jerrold Avenue bounded by Napoleon Street on the north and Toland Street on the south. Next to a building identified as Tamaras Supply is an empty lot, but it is less than 3 acres. Because staff identified no vacant sites meeting the 3 acre criteria, this area was eliminated from further consideration.

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### 12. Asphalt Plant

The Asphalt Plant straddles Jerrold Avenue on the southeast side of Quint Street. The site is across the street from the Southeast Waste Water Treatment Facility and the City and County of San Francisco Surplus Yard. There is apparently no available space at the Asphalt Plant sufficient to house the project. Site size constraints preclude this site from alternatives evaluation.

### 13. Egbert and Third Street

In the industrialized area around Egbert and Third Street, there is a Coca Cola Bottling Plant, and the Concord Missionary Baptist Church. Staff did not find any 3 acre sites and therefore this area was eliminated from consideration.

### 14. North of Candlestick Park

There is considerable open space around Fitch Street and Carroll Avenue. However, this area is used as city parking for Candlestick Park. Therefore, the area was eliminated from further consideration.

### 15. South of Candlestick Park

South of Candlestick Park, there is a site zoned for heavy industrial uses (M-2). This area is adjacent to Jamestown Avenue and the Hunters Point Expressway. However, construction activity has begun on the site and therefore, the area was eliminated from further consideration.

## 16. West of the Caltrain Passenger Station in Brisbane

To the west of Tunnel Avenue in Brisbane, there appears to be a Cal Train passenger station. Between the train tracks on the east and Bayshore Blvd. on the west there appears to be employee and truck parking for Pacific Lithograph and the Schlage Lock Company. Because the site is currently utilized for existing business the area was eliminated from further consideration.

### 17. South Hill Drive

On Brisbane's South Hill Drive, in Visitacion Valley, there is a 7 + acre vacant site listed by CB Commercial. In a conversation with Tim Tune, City Planner for the City of Brisbane, he indicated that the site is designated as Trade Commercial. This designation in the general plan provides for warehouses, offices and light industrial. The City of Brisbane is moving away from industrial development, towards office and commercial buildings.

Mr. Tune also indicated that there is an intermediate school located 1200 feet to the east, downwind from this parcel. A site this close to schools offers no advantages over the Port or Innes Avenue sites which are 1600 and 2000 feet away from the Malcolm X Academy, respectively.

JUNE 1995 ALTERNATIVES

Additionally, complaints had been lodged in Brisbane about dust from a quarry located near the parcel in question, indicating that emissions from an alternative plant would also impact the same area.

Considering the concern regarding the location of the school, which is closer than either the Port or Innes site, the site does not appear likely to reduce or eliminate any of the potential impacts at the Innes or Port sites, therefore the site was eliminated from further consideration.

#### 18. South San Francisco - 270 Oyster Point Blvd.

At Oyster Point Blvd. near Highway 101, near 270 Oyster Point Blvd. is a site for sale by Galbreath Realty.

The businesses currently located in the Oyster Point area are representative of mixed light industrial use. There is a Marina and supporting uses, such as pleasure and sport marine craft sales and service offices. The most visible industrial site in the area is a United Parcel Service terminal.

Steve Carlson, Senior Planner, City of South San Francisco, informed staff that a power plant in this city would need to be located on land zoned M-1. He added that since a power plant is neither permitted nor excluded from land zoned M-1, the final decision would rest with the city council. Mr. Carlson did point out that the city did not want a power plant to be located on land north of Oyster Point Blvd. since the city was trying to encourage "higher end" land uses in this area. However, since the surrounding land use was incompatible with a power plant and the site did not appear likely to reduce or eliminate any of the potentially significant adverse impacts of the Innes and Port sites, this site was eliminated from consideration.

#### 19. South San Francisco - 336 Oyster Point Blvd.

Across from 336 Oyster Point Blvd is an empty 5.5 acre lot, identified as zoned for Industrial-Research and Development. Cushman Wakefield is the agent representing the property. The site is next to the Oyster Point Business Park. Because a power plant is incompatible with existing surrounding land uses, and because this site did not appear likely to reduce or eliminate any potentially significant adverse impacts at the Innes or Port sites, staff eliminated it from consideration.

#### 20. San Francisco International Airport

Around the north end of the San Francisco International Airport, north of the United Airlines maintenance terminal, there are no suitable three acre sites. Most land around the airport is occupied by very large maintenance and office buildings. Other open spaces are used as parking lots. Some construction is occurring to the southwest of the intersection of Highway 380 and Airport Blvd. East of this intersection, adjacent to this construction, is open space abutting the overhead freeway. However, this lot is occupied by new Toyota automobiles with license plate markers indicating Melody Toyota, which is about a mile away on El Camino Real. Furthermore, this site is not three acres. As a result, there are no sites in the area of the San Francisco International Airport which meet the minimum three acre size needed for consideration as an alternative site, and therefore, this area was eliminated from consideration.

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#### 21. San Bruno - Tanforan Shopping Center

On the San Bruno city map, East of El Camino Real, bordered by Noor Avenue on the north, Highway 380 to the south and Hamilton Avenue to the east, there appeared to be the only sufficient open space area in San Bruno to accommodate a power plant. However, field reconnaissance indicated that the site is occupied by the Tanforan Shopping Center. There is no site at this location which meets the minimum three acre size needed for consideration as an alternative site, and therefore, this area was eliminated from consideration.

#### 22. South San Francisco - South Spruce Avenue

The South San Francisco area, east of South Spruce Avenue and west of the railroad tracks can be described as light industrial/business park. Among the industrial/business uses are a Zellerbach warehouse, and an Orowheat Bakery. Immediately to the east of the railroad tracks and west of Highway 101 (Bayshore Freeway) the area is residential.

Traversing west across the railroad tracks and travelling south on South Linden Avenue, the area's character again changes back to industrial. For example, at the intersection of South Linden Avenue and North Canal Street is Altair Gases and Equipment. At 160 South Linden Avenue, there is a facility identified as Dupont Kansai. This facility appears to be industrial or chemical manufacturing. However, there is no site in this area of South San Francisco affording the minimum three acre size, and therefore, this area was eliminated from consideration.

#### 23. Daly City - Mussel Rock

In Daly City, east of Mussel Rock, there is a large expansive open space area. This is bordered by a refuse transfer station on the south, and the Pacific Ocean on the west. High above, to the east are residential homes overlooking the ocean.

Staff contacted Daly City regarding this site. Sharon Fierro, Senior Planner, believed that the site would not be viable, not only from Daly City's perspective but also from that of the Coastal Commission and the city of Pacifica whose city boundary lies near the site. The Coastal Commission prohibits the construction of new power plants adjacent to the California coast. It was Ms. Fierro's belief that a number of environmental and land use issues would preclude the construction of a power plant near the refuse transfer station. Since there were no apparent advantages to this area as an alternative site, this area was eliminated from consideration.

#### 24. Oceanside Water Pollution Control Plant

Along the Great Highway, at 3500 Great Highway is the Oceanside Water Pollution Control Plant. Staff, on its own initiative and later at the request of the public, examined the area adjacent to the existing Oceanside water pollution control plant for an alternative site.

The Oceanside facility is built on land adjacent to the U.S. National Guard Armory and the San Francisco Zoo. This land is bordered by the Great Highway on the western boundary and Sloat Boulevard on the North.

Between the visible portions of the Oceanside facility and the San Francisco Zoo, north and northwest of the U.S. National Guard Armory, there appears to be land of sufficient size to

JUNE 1995 ALTERNATIVES

support a project alternative. However, this land has been approved to house the zoo's mammal conservation center and an avian conservation center.

The mammal conservation center was approved by the City of San Francisco, as part of the Oceanside project, and will be located above portions of the water pollution control facility which are located underground. The avian conservation center was approved by the City of San Francisco in December 1994 as part of the San Francisco Zoo Infrastructure Replacement project. The avian facility and mammal conservation center will be constructed in the next three years. All remaining land which appears to be vacant is above existing underground portions of the Oceanside Water Pollution Control facility within the San Francisco Zoo.

The location of a cogeneration power plant within the San Francisco Zoo is an incompatible land use and would preclude future recreational use. As a result, staff is unable to locate a feasible alternative site in this area.

#### 25. 2900 Sloat Blvd.

At the request of Ms. Margaret Verges, staff attempted to identify a site for sale around the San Francisco Zoo. While staff found no such site, it did find a lot located at 2900 Sloat Blvd. Public notice was posted on the fence surrounding the site that an application for a conditional use permit had been filed, case number 93.586C. The conditional use permit requests construction on a parcel exceeding 10,000 square feet, an exception as a planned unit development from lot size and width standards, and additional dwelling density. The planned unit development, if approved, includes 16 buildings and 33 dwellings.

Besides the Zoo located across Sloat Blvd, the area is surrounded primarily by a residential area, with light commercial intermixed along Sloat Blvd. Furthermore, the site is much smaller than three acres. For the foregoing reasons, the site was eliminated from consideration.

## 26. San Francisco General Hospital. San Francisco State University and University of California Medical Center of San Francisco

Field reconnaissance was conducted at these three locations, because of a perceived steam need, making them potential steam hosts. However, all three facilities were eliminated from consideration because there were no three acre sites available for locating a power plant at any of the facilities.

#### 27. The Presidio of San Francisco

The Presidio is a one thousand four hundred and eighty acre reserve, renown for its scenic setting and rich historic and natural features. By the end of 1995, the Presidio will be transferred from the Army to the National Park Service to become part of the Golden Gate National Recreational Area.

None of the planning activities for the Presidio's future include power plant development. The Final General Management Plan Amendment for Presidio of San Francisco calls for the removal of 276 nonhistoric and historic buildings to the enhance the site's recreational, cultural, and natural resources. The National Park Service will establish a visitor center at the main post as well as visitor contact stations at other locations within the Presidio. The Park Service will also

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provide extensive programs about the Presidio's resources and history, and global environmental issues.

Under the main post will be used for international and cultural programs; a privately operated conference, research, and training facility will be developed at Fort Scott; and the Letterman complex would be used for scientific research and education. The Sixth Army would continue to occupy up to 1.8 million square feet of building space.

Ms. Margaret Verges informed staff that there was an existing power plant at the Presidio, arguing that the San Franscisco Energy Company could be located here. Staff researched this issue and determined that Building 1040 is identified as a powerhouse and steam plant. The steam plant consists of four very old boilers. The boilers are used for district heating only, there is no power generation. These boilers were used to service several buildings in the Letterman Hospital complex. As time went on, the boilers evenetually failed, until only one boiler remains in service, and it can only deliever one-third of its rated capacity.

Therefore, plans at the Presidio call for the complete removal of all the boilers, and each building will supply its own heating with new individual boilers. Because of the very limited funds available for all the projects at the Presidio, there are no funds identified for rehabilitation of Building 1040 or anything beyond merely closing the door of the building and securing the building for safety purposes.

At one time an independent developer approached the National Park Service and offered to supply the district heating at no cost, and sell electricity generated by excess energy to PG&E. This offer was refused, because the plan was inconsistent with a national park.

Staff does not believe that locating the proposed project at the Presidio is feasible. As part of the National Park system, siting a 241 MW power plant at the Presidio would be viewed by the Federal government as an incompatible land use, inconsistent with the mission of the Park Service. In addition to the fact that the Federal government would not make any site within the Presidio available for the proposed power plant, rendering this site infeasible, staff believes locating a power plant at the Presidio has the potential to create significant environmental impacts in a number of technical areas, including land usee and visual resources.

#### 28. Alcatraz Island

The use of Alcatraz Island was suggested by a member of the public during one of staff's workshops on alternatives. Alcatraz, as part of the Golden Gate National Recreation Area, is under the administration of the National Park Service. For all of the reasons discussed above for the Presidio, staff believes that locating the proposed power plant on Alcatraz would be infeasible, and would result in significant environmental impacts.

JUNE 1995 ALTERNATIVES

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# APPENDIX: CHRONOLOGICAL HISTORY

Workshop and Hearing Summary

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#### SAN FRANCISCO WORKSHOP & HEARING SUMMARY

SAN FRANCISCO **SACRAMENTO** Workshops Held Workshops Held MORNINGS = 10MORNINGS = 1EVENINGS = 12 EVENINGS = 0Hearings Hearings MORNINGS = 10 MORNINGS = 5EVENINGS = 4 EVENINGS = 0TOTALS = 36TOTALS = 6

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DATE	TIME	LOCATION	TOPICS

Nov. 16	1:00 p.m 9:00 p.m.	California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA	Conference on PMPD
Sept. 12	10:00 a.m 4:00 p.m	State of California Office Building 455 Golden Gate Ave. Room 1200 San Francisco, CA	(Hearing) Air Quality and Site Remediation
August 22	10:00 a.m 4:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1200 San Francisco, CA	Air Quality and Site Remediation
July 21	10:00 a.m 6:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	(Hearing) Public Health and Applicant Witnesses
July 20	10:00 a.m 6:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1158 San Francisco, CA	(Hearing) Air Quality and Public Health
July 19	10:00 a.m 6:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	(Hearing) Air Quality
July 18	10:00 p.m 6:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	(Hearing) Alternatives, Industrial Safety and Fire, Efficiency, and applicant Witness
July 17	10:00 a.m 6:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	(Hearing) Alternatives

SAN FRANCISCO PROJECT 94-AFC-1 WORKSHOP SCHEDULE			
DATE	TIME	LOCATION	TOPICS

July 14	9:30 a.m 6:00 p.m.	California Energy Commission Hearing Room A 1516 Ninth Street Sacramento, CA	(Hearing) Socioeconomics and Land Use
July 13	9:30 a.m 6:00 p.m.	California Energy Commission Hearing Room A 1516 Ninth Street Sacramento, CA	(Hearing) Facility Design, Soils/Water Resources, Geo. Hazards, Waste Management, Hazardous Materials and Intervenor witnesses
July 12	1:00 p.m, - 6:00 p.m.	California Energy Commission Hearing Room A 1516 Ninth Street Sacramento, CA	(Hearing) Noise, Transmission System Engineering, and Transmission Line Safety and Nuisance
luly II	10:00 a.m 6:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	(Hearing) Declarations, Environmental Justice, Visual Resources, and Intervenor Witnesses
July 7	9:30 a.m 5:00 p.m.	California Energy Commission Hearing Room A 1516 Ninth Street Sacramento, CA	(Hearing) Demand Conformance
July 6	9:30 a.m 6:00 p.m.	California Energy Commission Hearing Room A 1516 Ninth Street Sacramento, CA	(Hearing) Project Description, Demand Conformance and Administrative/Procedural Matters
June 21	10:00 a.m 4:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1202 San Francisco, CA	(Hearing) FSA, PM10, socio and seismic issues

SAN FRANCISCO PROJECT 94-AFC-1 WORKSHOP SCHEDULE				
DATE	TIME	LOCATION	TOPICS	

June 9	10:00 a.m 5:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	(Hearing) Prehearing conference
June 2	10:00 a.m 5:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	PSA wrap-up
May 23	6:00 p.m 9:00 p.m.	South East Community Center Community Room, Lower Level 1800 Oakdale Ave. San Francisco, CA	Cultural, Paleontological Resources and Biological Resources
May 19	10:00 а.m 4:00 р.m.	San Francisco Building Department 1660 Mission Street, Room 2001 San Francisco, CA	Facility Design, Efficiency and Reliability, Geological Hazards, Transmission Line Safety and Nuisance, and transmission Systems Engineering
May 19	6:00 p.m 9:00 p.m.	All Hallows Community Center 1601 Lane Street (Near Revere) San Francisco, CA	Facility Design, Efficiency and Reliability, Geological Hazards, Transmission Line Safety and Nuisance, and Transmission Systems Engineering
May 17	10:00 a.m 4:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1194 San Francisco, CA	Alternatives, Alternatives Data Responses and Elfin modeling
May 17	6:00 p.m 9:00 p.m.	Malcolm X Academy School 350 Harbor Road San Francisco, CA	Alternatives, Alternatives Data Responses and Elfin modeling
May 12	10:00 a.m 4:00 p.m.	Bay Area Air Quality Management District Board Room, 7th Floor 939 Ellis Street San Francisco, CA	Air Quality, Odor, and Public Health

SAN FRANCISCO PROJECT 94-AFC-1 WORKSHOP SCHEDULE					
DATE	TIME	LOCATION	TOPICS		

May 12	6:00 p.m 9:00 p.m.	Malcolm X Academy 350 Harbor Road San Francisco, CA	Air Quality, Odor, and Public Health
May 11	10:00 a.m 4:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1200 San Francisco, CA	Hazardous Materials Management, Soil and Water Resources, Waste Management, and Industrial Safety & Fire Protection
May 11	6:00 p.m 9:00 p.m.	Malcolm X Academy . 350 Harbor Road San Francisco, CA	Hazardous Materials Management, Soil and Water Resources, Waste Management, and Industrial Safety & Fire Protection
May 10	10:00 a.m 4:00 p.m.	State of California Office Building 455 Golden Gate Ave. Room 1200 San Francisco, CA	Land Use, Socioeconomics, Visual Resources, Traffic and Noise
May 10	6:00 p.m 9:00 p.m.	Malcolm X Academy 350 Harbor Road San Francisco, CA	Land Use, Socioeconomics, Visual Resources, Traffic and Noise
May 3 (if needed)	6:00 p.m 9:00 p.m.	South East Community Center Community Room, Lower Level 1800 Oakdale Ave. San Francisco, CA	Introduction to the Preliminary Staff Assessment, Need Conformance and Elfin Modeling as it Relates to Air Quality and Project Alternatives
May 2	6:00 p.m 9:00 p.m.	South East Community Center Community Room, Lower Level 1800 Oakdale Ave. San Francisco, CA	Introduction to the Preliminary Staff Assessment, Need Conformance and Elfin Modeling as it Relates to Air Quality and Project Alternatives
April 11	6:00 p.m 9:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Motion for Stay Hearing

SAN FRANCISCO PROJECT 94-AFC-1 WORKSHOP SCHEDULE				
DATE	TIME	LOCATION	TOPICS	
L DATE	TIME	LOCATION	TOPICS	

February 16	6:00 p.m 9:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Data Request/Data Response
January 9	6:00 p.m 9:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Data Request/Data Response
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December 13	6:00 p.m9:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Hearing regarding Legal Issues Relating to CEQA
December 12	6:00 p.m 9:0 <del>0</del> p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Data Request/Data Response
December 5	6:00 p.m 9:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Data Request/Data Response
October 27	1:00 p.m 4:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Data Request/Data Response
October 27	6:00 р.т 7:30 р.т.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Summary of 1:00 meeting
October 11	2:00 p.m 4:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Informational Hearing and Site Visit

SAN FRANCISCO PROJECT 94-AFC-1 WORKSHOP SCHEDULE					
DATE	TIME	LOCATION	TOPICS		

October 11	6:00 p.m 9:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	(Hearing) Repeat of 2:00 meeting
September 26	10:00 a.m., - 4:00 p.m.	South East Community Facility 1800 Oakdale Ave. (at Phelps Street) San Francisco, CA	Data Request Workshop
August 19	10:00 a.m 5:00 p.m.	California Energy Commission Hearing Room B 1516 9th Street Sacramento, CA	Data Adequacy Workshop



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#### STATE OF CALIFORNIA

# State Energy Resources Conservation and Development Commission

In the Matter of:		) Do	ocket No. 94-AFC-1
Application for Certification for the SAN FRANCISCO ENERGY COMPANY'S COGENERATION Project		) ) ) _)	XHIBIT LIST
			Admitted
EXHIBIT 1:	Final Standard Offer Contract		7/6/95
EXHIBIT 2:1	Miscellaneous PG&E Document FERC Decision, Feb. 23, 1995	s and	7/7/95
EXHIBIT 3:	CEC 1994-95 Budget, Summary of Program Requirement	ents	7/11/95
EXHIBIT 4:	Arango Drawings 2 ppg.		7/13/95
EXHIBIT 5:	Shah Drawings 2 ppg.		7/13/95
EXHIBIT 6:	Minor Chart/Drawing		7/13/95
EXHIBIT 7:	USGS Report Excerpt		7/13/95
EXHIBIT 8:	Organizational Contacts & Endo	rsements	. 7/14/95
EXHIBIT 9:	Memorandum of Understanding Bayview Hunters Point Clean Er Coalition and SFEC	avironment	7/14/95
EXHIBIT 9A:	Booklet of Alternatives		7/17/95

<sup>1</sup> Renumbered, erroneously stated as Exhibit 3.

EXHIBIT 10:	PGandE ER 90 BRPU Report 1.89.07.004	7/17/95
EXHIBIT 11:	Data Responses Morgan Heights Nos. 1-5	7/17/95
EXHIBIT 12:	Staff Alternatives Analysis Flow Chart	7/18/95
EXHIBIT 13:	1994 BAAQMD Currents Newsletter	7/19/95
EXHIBIT 14:	Final Determination of Compliance BAAQMD	7/20/95
EXHIBIT 14A:	1995 BAAQMD Ozone Exceedences	7/20/95
EXHIBIT 15:	Fairley to Ramo Letter (7/18/95)	7/20/95
EXHIBIT 16:	1993 BAAQMD Handbook	7/20/95
EXHIBIT 17:	AP-42 Compilation of Air Pollutant Emission Factors.	7/20/95
EXHIBIT 18:	RWQCB Order 87-061	7/20/95
EXHIBIT 19:	AFC Plate 5.3.39	7/20/95
EXHIBIT 20:	CRWQCB to Port of SF Report 1/26/95	7/20/95
EXHIBIT 21:	S.F. Dept. of Public Health Letter 5/31/95	7/21/95
EXHIBIT 22:	Ozkaymak and Thurston Article "Associations Between 1980 U.S. Mortality Rates"	7/21/95
EXHIBIT 23:	Dockery and Pope Article "Acute Respiratory Effects of Particulate"	7/21/95
EXHIBIT 24:	Ostro Article "The Association of Air Pollution and Mortality"	7/21/95
EXHIBIT 25:	EPA Document 450/3-88-008 Control of Open Fugitive Dust	7/21/95
EXHIBIT 26:	Garvey to Rubenstein Letter 5/18/95	7/21/95
EXHIBIT 27:	Map 9, S.F. Master Plan	7/21/95

EXHIBIT 28:	Zip Code Map of S.F.	7/21/95
EXHIBIT 29:	ARB Calif. Ambient A.Q. Standards for PM <sub>10</sub>	7/21/95
EXHIBIT 30	Four letters Sunland Analytical Laboratory to Sierra Research	9/12/95
EXHIBIT 31:	U.S. Navy Document re Moffett Field	9/12/95

# APPENDIX: LABOR AGREEMENT

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May 24, 1995

Mr. Stan Smith
Secretary-Treasurer
San Francisco Building and
Construction Trades Council
2660 Newhall Street, Room 116
San Francisco, CA 94124-2527

Subject:

Project Stabilization Agreement and

Agreement for Construction Employment Goals

San Francisco Energy Company

Dear Mr. Smith:

This letter agreement will confirm our understanding regarding the applicability of the Agreement for Construction Employment Goals and the Project Stabilization Agreement ("Agreements") in connection with the San Francisco Energy Company Cogeneration Facility ("Project"). Although the San Francisco Energy Company ("Owner") has not selected nor entered into a contract with the Engineering, Procurement and Construction Contractor ("EPC Contractor") to construct the Project, it is understood and agreed that these Agreements are acceptable to the San Francisco Building and Construction Trades Council ("Council"), and the Council's affiliated local unions ("Local Unions") who are signatory to the Agreements.

The Owner agrees that it will cause construction work covered by the Agreements to be contracted to an EPC Contractor who will be required to execute and be bound by the terms of the Agreements. In addition, the Council and Local Unions agree that other contractors may execute the Project Stabilization Agreement for purposes of covering such work on the Project by signing Attachment B ("Agreement To Be Bound"). The EPC Contractor shall monitor the compliance with the Agreements by all contractors, who by signing an Agreement To Be Bound, together with their subcontractors, shall have become bound to the Project Stabilization Agreement. Each of the parties hereto acknowledge that there is no employment or labor relationship, or any other contractual or legal relationship of any kind, other than as expressly set forth herein, between the Owner and either the Council, Local Unions or both.

General: (415) 395-7899

Owner also agrees that if the contractual arrangement between the Owner and the EPC Contractor is terminated for any reason, and the EPC Contractor is replaced, the Owner agrees that as a condition of award, any successor EPC Contractor will execute the Project Stabilization Agreement by signing an Agreement To Be Bound. By signing the Agreement To Be Bound the successor EPC Contractor will accept and undertake all the obligations, responsibilities and authority of the former EPC Contractor for implementation of the Agreements.

If this letter fairly and completely represents your understanding regarding the applicability of the Project Stabilization Agreement and the Agreement for Construction Employment Goals for the San Francisco Energy Company Cogeneration Facility, please sign in the space provided below.

Sincerely,

Mark E. Woodruff

San Francisco Energy Company

San Francisco Building and

Construction Trades Council

SIGNATORY UNIONS

Intl. Association of Heat and Frost

Insulators and Asbestos Workers, Local 16

Northern Counties

Inited Brotherhood of Carpenters and Joiners of America-District Council 48

otherhood of Carpenters and Joiners of America-Millwright Local 102 Coment Masons' Local 580 and
District Conneil of Northern
California

Intern'al Ass'n of Bridge, Structural and Ornamental Iron Workers Local 377

Int'l. Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers, Local 549

Int'l. Union of Bricklayers and Allied Craftsmen Local 3 State of California & Vicinity

District Council of Yon Warkers

United Association for the Plumbing and Pipefitting Industry of the United States and Canada, Local 38

Intern'al Brotherhood of Painters and Allied Trades, Local 4

Carpet, Linoleum & Soft Tile Workers I.B.P.A.T. Local 12

Glaziers Local 718

International Brotherhood of Electrical Workers-Local 6

United Union of Roofers, Waterproofers and Allied Workers Local 40

Sheet Metal V orkers' International Association Jocal 104

Pile Driver Local #34

Mr. Stan Smith May 24, 1995 Page 4

Laborers' International Union of North America - Local 36 Hod Carriers

Laborers' International Union of North America - Local 261

Northern California District Council of Laborers

International Union of Operating Engineers Local 3

Latherers Local 68L

Operative Plasterens' Local No. 66

International Brotherhood of Teamsters, Chauffeurs, Warehousemen - Local 216

Sprinkier Fitters Local 483

Painters Distroct Council #8/

#### **PROJECT STABILIZATION AGREEMENT**

for the

SAN FRANCISCO ENERGY COMPANY COGENERATION FACILITY SAN FRANCISCO, CALIFORNIA

## PROJECT STABILIZATION AGREEMENT FOR THE

#### SAN FRANCISCO ENERGY COMPANY COGENERATION FACILITY PROJECT SAN FRANCISCO, CALIFORNIA

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#### PROJECT STABILIZATION AGREEMENT for the SAN FRANCISCO ENERGY COMPANY COGENERATION FACILITY SAN FRANCISCO, CALIFORNIA

#### PREAMBLE

#### **COVENANTS**

WHEREAS, the parties to this Agreement mutually agree that safety, quality and productivity are primary goals; and

WHEREAS, the parties recognize the need for safe, efficient and speedy construction in order to reduce unnecessary delays and further to contribute significantly to safe, efficient and shorter construction schedules, thereby further reducing costs; and

WHEREAS, the parties desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the Project by the Contractor(s), and further to encourage community participation and close cooperation between the parties to the end that a satisfactory, continuous and harmonious relationship will exist between the parties to this Agreement;

NOW THEREFORE, the parties in consideration of the promises and covenants herein contained, mutually agree as follows:

#### ARTICLE I SCOPE OF AGREEMENT

1.1 This Agreement shall apply only to that new construction work awarded to and performed by the EPC Contractor, who shall become signatory to this Agreement, and other Contractor(s), who shall sign Agreements to be Bound as stipulated in Article 3 of this Agreement.

New construction work on the Project to be performed by the EPC Contractor and other Contractor(s) includes construction and supervision of startup and performance testing for the nominal 240 MW cogeneration power plant. The EPC Contractor will design, purchase and construct the project's earthwork, piling, equipment and building foundations, erection of structural steel framed and pre-engineered buildings, installation of major equipment (combustion turbine, heat recovery steam generator, steam turbine generator), installation of other mechanical and electrical equipment, and installation of plant interconnecting piping, electrical and instrumentation.

New construction work also includes all additions, extensions, changes and extra work, which is performed prior to the notice of completion. Further, this Agreement is limited solely to this Project and shall have no force or effect on any other construction projects. There shall be no interference with vendor or supplier deliveries of equipment, apparatus, machinery, and

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construction materials to the job site since such deliveries shall not fall under this Agreement. Distribution on the Project site will be done by the crafts involved in accordance with the terms and conditions of the local Collective Bargaining Agreements (hereinafter referred to as "CBA").

- 1.2 This Agreement shall apply only to craft employees represented by the Local Unions signatory hereto who are traditionally covered by a collective bargaining agreement on a construction project but shall specifically exclude technical or non-manual employees including, but not limited to, Contractor(s) supervisors, superintendents, engineers, drafters, field engineers, inspectors, timekeepers, clerical and office workers, managers, messengers, guards, all medical personnel, administrator and employees classified above the classification of General Foreman.
- 1.3 This Agreement shall only cover onsite construction work contracted by the Owner to the Contractor(s) hereto unless otherwise stated in this Agreement. It is further recognized that the Contractor(s) is acting only on behalf of said Contractor(s), and said Contractor(s) has no authority, either express, implied, actual, apparent or ostensible, to speak for or bind the Owner. It is understood by the Contractor(s) and agreed to by the Unions, that the craft employees of the Contractor(s) will perform the work requested by the Contractor(s) and will not interfere with any other work performed by any employees of the Owner or other employees of employers under contract with the Owner to perform work not covered by this Agreement.
- 1.4 It is agreed by the parties signatory hereto that this Agreement shall supersede the terms and conditions of local and/or national collective bargaining agreements in effect at the time of the signing of this Agreement otherwise applicable to employees engaged in the work, to the extent that the terms and conditions of such local and/or national collective bargaining agreements conflict with or differ from the terms and conditions of this Agreement. It is further agreed and understood that all terms and conditions of appropriate local and/or national collective bargaining agreements not covered herein shall be incorporated within and made a part of this Agreement.
- 1.5 The EPC Contractor agrees that all ready-mix concrete to be used on the Project shall be supplied by entities which are signatory to agreements with the appropriate AFL-CIO and International Brotherhood of Teamsters locals.
- 1.6 The terms of this Agreement shall not apply to work of the EPC Contractor that is being performed under the terms of the Stack and Cooling Tower Agreements, the Elevator Constructors National Agreement, the National Tank Manufacturers Agreement (NTL), and the National Industrial Agreement for Instrument Technicians.
- 1.7 After installation is completed by the Contractor(s) and upon Owner acceptance, it is understood the Owner reserves the right to perform start-up, operation, repair, maintenance or revision of equipment or systems with persons of its choice. It required, the service representative may make a final check to protect the terms of a manufacturer's guarantee or warranty prior to start-up of a piece of equipment.

### ARTICLE 2 UNION RECOGNITION AND REPRESENTATION

2.1 All bargaining unit employees hired on this Project by the Contractor(s) at any tier must, as a condition of employment, be members, or become members in good standing of the appropriate Local Union within eight (8) days following the date of employment, and remain members in good standing of the appropriate Local Union, and must pay any fees, dues or assessments in the same manner and amounts as other members of the same Local Union organizations.

2

- 2.2 The Contractor(s) recognize the Unions signatory hereto as the sole and exclusive collective bargaining representatives for its craft employees on the Project.
- 2.3 Authorized representatives of the Unions, identified as certified representatives of the Council by credentials issued by the Council, shall have access to the site, provided they do not unduly interfere with the work of the employees, and further provided, that such representatives fully comply with the visitor safety and security rules established for the Project.
- 2.4 A steward shall be a working journeyperson appointed by the authorized union representative of the Local Union who shall, in addition to his work as a journeyperson, be permitted to perform during working hours such of his union duties as cannot be performed at other times. The Local Union agrees that such duties shall be performed as expeditiously as possible and the Contractor(s) agree to allow the steward a reasonable amount of time for the performance of such duties. It is understood and agreed that the steward's duties do not include any matters relating to referral, hiring and termination. The steward shall not leave the work area without notifying the appropriate supervisor.
- 2.5 The steward shall perform work in the classification he/she is employed and will be paid at the appropriate journeyperson wage for the job classification in which the steward is employed.
- 2.6 The steward will be subject to discharge for just cause to the same extent as other employees provided however, that the Union shall be notified twenty-four (24) hours prior to the discharge.
- 2.7 The steward shall remain on the job until its completion, or until no more than three (3) craft employees are left on the job provided they are qualified to perform the work to be done, unless removed by the Business Manager. Nothing in this Section shall preclude the Business Manager from appointing any of the three remaining craft employees as steward.

## ARTICLE 3 SUBCONTRACTING

- 3.1 Any subcontractor working on the Project shall, as a condition to working on the Project, become signatory to and perform all work under the terms of this Agreement by signing an Agreement To Be Bound. Each subcontractor agrees that neither it nor any of its subcontractors will subcontract any work to be done on the Project except to a person, firm, or corporation who is or becomes party to this Agreement. The furnishing of materials, supplies or equipment shall be in no case considered subcontracting, unless otherwise specified in individual CBAs and covered by Section 1.1 of this Agreement.
- 3.2 Except as provided for in this Agreement, all work on the Project performed by Contractor(s) shall be under the terms and conditions of CBA for the appropriate Local Unions having jurisdiction over such work. All Contractor(s) shall be notified of the terms of the CBA and shall agree to be bound by its provisions unless covered by another agreement having precedent. All appropriate provisions of CBAs, not otherwise modified by this Agreement, shall be incorporated herein by reference, as they exist and as they may be renewed, extended or amended during the term of the Agreement.

## ARTICLE 4 NO STRIKE - NO LOCKOUT

4.1 There will be no work stoppages, strikes, sympathy strikes, slowdowns, picketing or lockouts on the Project. The Unions, its officers and representatives will make good faith efforts to avert or end any actual or threatened strike in violation of this Article: During the life of this Agreement, the Unions and its members, agents, representatives and employees shall not

incite, encourage, condone, or participate in any strike, walkout, slowdown, sit-down, stay-in, boycott, sympathy strike, picketing or other work stoppage or handbilling on the jobsite advocating violation of this Article, for any cause whatsoever, or any other type of interference of any kind, coercive or otherwise, and it is expressly agreed that any such action is a violation of this Article.

- 4.2 The Contractor(s) will not lock out Union employees on the Project. The term lock out does not include discharge for cause or layoff.
- 4.3 The EPC Contractor and Unions shall use their best efforts to end any violation of this Article. In the event of a violation of this Article, either party reserves the right to pursue remedies under the law.
- 4.4 In the event any Local Union has been unable to resolve a dispute with a signatory contractor/subcontractor through appropriate legal or contractual procedures, and provides a decision rendered through the Courts or the procedures defined in the CBA, which verifies that the contractor/subcontractor is in violation of its CBA, or the contractor/subcontractor has failed to abide by a decision of a grievance panel or arbitrator regarding the dispute, said Local Union shall give written notice to the affected contractor/subcontractor, the EPC Contractor and the Council, specifying the nature of the unresolved violation within five (5) working days after the contractor/subcontractor has failed to comply. If it is validated through the Courts or the procedures defined in the CBA or this Agreement that the contractor/subcontractor has violated the CBA or this Agreement and has failed to comply with a properly determined resolution of the dispute, the Council shall notify the EPC Contractor, in writing, who shall give the affected contractor/subcontractor 72 hours written notice to comply with the decision or be removed from the Project.

## ARTICLE 5 WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

- 5.1 Contractor(s) shall stipulate to and have the responsibility for making work assignments in accordance with the rules, regulations and procedures of the Plan for Settlement of Jurisdictional Disputes in the Construction Industry approved by the Building & Construction Trades Council AFL-CIO, June 14, 1984, or any successor plan.
- 5.2 There will be no strikes, work stoppages, work interruptions, slowdowns, sympathy strikes, picketing, handbilling, public notices or other interferences with the work while any jurisdictional dispute is being resolved. Pending resolution of the dispute, the work shall continue uninterrupted as assigned by the Contractor(s). The Contractor(s) shall have the right, in the event of a work stoppage by the Unions, to replace the employees represented by the Unions in violation of this Agreement in any way the Contractor(s) choose, until the Unions effect the return to work of such employees, provided the Contractor(s) have exhausted the provisions of Article 10.

## ARTICLE 6 JOINT LABOR-MANAGEMENT MEETINGS

6.1 A Joint Labor-Management meeting between the EPC Contractor and the signatory Unions, will be held at regular and mutually agreed upon intervals. The purpose of these meetings is to promote harmonious labor/management relations, ensure adequate communications and advance the proficiency and efficiency of the Local Unions and the Contractor(s) on the Project. These meetings will also include discussion of the scheduling and productivity on work performed on the Project, including work performed on the Project outside the scope of this Agreement. Either party may call a joint Labor/Management meeting by giving a seven (7) day notice. Any question, clarification or interpretation of this Agreement may be presented to the labor management meetings.

6.2 A pre-job conference and work assignment/mark-up meeting will be held prior to the commencement of work to establish the scope of work in each Contractor(s)' contract. When a contract has been let to a contractor/subcontractor covered hereby, a pre-job conference and/or mark-up meeting shall be required upon request of any Local Union or any Contractor(s).

## ARTICLE 7 MANAGEMENT RIGHTS AND WORK RULES

- 7.1 The Contractors(s) retain full and exclusive authority for the management of their work forces for all work performed under this Agreement and shall retain all existing rights of management and all rights conferred on it by law.
- 7.2 The Contractor(s) retain the full right to develop and establish jobsite work rules, including discipline and discharge procedures, which are not inconsistent with this Agreement or CBAs.
- 7.3 The Contractor(s) retain the full and exclusive right to purchase materials, equipment and/or machinery from any source, except as specified in the CBAs.

## ARTICLE 8 WAGE SCALES AND FRINGE BENEFITS

- 8.1 All craft employees covered by this Agreement shall be classified and paid in accordance with the classification, wage scales and fringe benefits contained in the appropriate CBAs which have been negotiated by the historically recognized bargaining agencies. Attachment A provides a partial summary of the appropriate wage and fringe benefit package for each Local Union.
- 8.2 The Contractor(s) agree to recognize and put into effect such increases in wages and recognized fringe benefits as shall be negotiated between the various Local Unions and the historically recognized local bargaining unit on the effective date as set forth in the applicable agreement.

## ARTICLE 9 GRIEVANCE PROCEDURE

- 9.1 It is mutually agreed that any question(s) arising out of and during the term of this Agreement involving its interpretation and application (other than jurisdictional disputes), including issues in dispute regarding jobsite employment, shall be considered a grievance.
- 9.1.1 This Grievance Procedure shall be applicable to the EPC Contractor and craft employees employed by the EPC Contractor only. All subcontractor(s), at any tier, shall be covered, along with their craft employees, by the grievance procedure provisions of the CBA.
- 9.2. A grievance shall be considered null and void if not brought, in writing, to the attention of the appropriate contractor/subcontractor and the EPC Contractor within five (5) working days after the incident occurred which initiated the alleged grievance.
  - 9.3 Grievances shall be settled according to the following procedure:
  - Step 1: The steward and the grievant shall attempt to resolve the grievance with the craft supervisor.
  - Step 2: In the event the matter remains unresolved in Step 1 above, within five (5) working days the grievance may then be referred, in writing, to the Business Manager of

the Local Union involved and the labor relations representative of the individual contractor/subcontractor and the EPC Contractor for discussion and resolution.

Step 3: If the grievance is not settled in Step 2, within an additional five (5) working days either party may request the dispute be submitted to arbitration or the time may be extended by mutual consent of both parties. The request for arbitration and/or the request for an extension of time must be in writing with a copy to the individual contractor/subcontractor, EPC Contractor, Council and Local Union.

The parties shall agree on the selection of an impartial arbitrator. If unable to agree on an impartial arbitrator within five (5) days, then either party may request the Federal Mediation and Conciliation Service ("FMCS") to submit a list of seven (7) names. The parties shall meet and each party, beginning with the party who is responding to the grievance, shall alternately strike one name from the list until one name remains. The remaining name shall be appointed as the impartial arbitrator (hereinafter defined as "Arbitrator").

The Arbitrator's decision shall be submitted in writing and shall be final and binding on all parties signatory to this Agreement. The expense of arbitration, including the cost of the Arbitrator and the cost of necessary expenses required to pay for facilities for the hearing of cases, shall be borne by the losing party. The Arbitrator's decisions shall be confined to the question posed by the grievance and the Arbitrator shall not have authority to modify, amend, after, add to or subtract from, any provision of this Agreement.

9.4 The Contractor(s), as well as the Unions, may bring forth grievances under this Article.

#### ARTICLE 10 REFERRAL

- 10.1 Contractor(s) performing construction work on the Project described in this Agreement shall, in filling craft job vacancies, utilize and be bound by the registration facilities and referral systems established or authorized by the Local Unions signatory hereto when such procedures are not in violation of Federal, State or applicable law. The Contractor(s) shall have the right to reject any applicant referred by the Local Unions.
- 10.2 In the event referral facilities maintained by the Local Unions are unable to fill the requisition of a Contractor(s) for craft employees within a forty-eight (48) hour period, unless the CBA provides for a longer period of time, after such requisition is made by the Contractor(s) (Saturday, Sunday and holidays excepted), the Contractor(s) shall be free to obtain craft employees from any source.
- 10.3 The Unions shall exert their utmost efforts, including requesting assistance from other local unions, to recruit sufficient number of skilled craft employees to fulfill the manpower requirements of the Contractor(s).
- 10.4 The provisions of Article 9, for the resolution of any disputes, shall apply to any disagreements over this Article, except as specified in the CBAs.

## ARTICLE 11 HOURS OF WORK, OVERTIME AND SHIFTS

11.1 As used throughout this Agreement, the term CBA refers to the current CBA negotiated by the historically recognized bargaining agencies with Local Unions having jurisdiction over the work to be performed who are parties to this Agreement. The provisions of such CBAs and any duly negotiated and succeeding CBAs, are applied and incorporated by reference as though set forth herein verbatim.

- Hours of Work: The work week will start on Monday and conclude on Sunday. Eight (8) hours per day (seven (7) hours per day for Electricians, Pipefitters and Sheet Metal Workers) shall constitute a standard work day between the hours of 7:00 a.m. and 5:30 p.m. with one-half (1/2) hour designated for tunch, midway through the shift. Forty (40) hours per week (thirty-five (35) hours for Bricklayers, Electricians, Pipefitters and Sheet Metal Workers), Monday through Friday, shall constitute a regular week's work. Nothing herein shall be construed as guaranteeing any employee seven (7) or eight (8) hours per day or thirty-five (35) or forty (40) hours per week.
- 11.2.1 Because the length of the work day varies between crafts, the Contractor(s) shall have the right to vary the starting and/or quitting times in order to provide adequate manpower coverage on the Project. Starting and quitting times may be varied within the times provided for in this Article.
- 11.2.2 For any Local Unions whose CBAs include provisions for "Off Fridays", the Contractor(s) shall have the option to schedule up to one-half of the individual Craft employees to work on a scheduled Off Friday at the regular straight time rate of pay. Those employees who work on the scheduled Off Friday shall substitute the Friday of the following week as their scheduled Off Friday.
- 11.3 Overtime: All overtime hours worked before or after the regularly established shift hours and the first ten (10) hours worked on Saturday shall be paid at the rate of time and one-half, unless a higher overtime rate is provided for in the appropriate CBA, in which case the higher rate shall be paid. All other overtime worked shall be paid at the rate of double time.

If any CBA includes a provision which would require employees covered by the CBA to receive a higher overtime rate of pay because employees of another CBA are working on the Project and are receiving a higher overtime rate, the provision of the CBA shall not apply to this Project.

11.4 Shifts: The Contractor(s) shall have the right to establish shifts for any portion of the work in accordance with this Article as provided for under the CBAs. Shift work may be performed at the option of the Contractor(s) but, when performed, it must continue for a period of not less than five (5) consecutive working days, unless otherwise agreed to by the Local Union affected.

#### ARTICLE 12 HOLIDAYS

- 12.1 Recognized holidays on this Project shall be: New Year's Day, Presidents' Day (observed on the third Monday in February), Memorial Day (observed on the last Monday in May), Fourth of July, Labor Day, Thanksgiving Day, the Day after Thanksgiving Day and Christmas Day and other holidays which are recognized in the CBAs.
- 12.2 When any of the recognized holidays fall on Saturday, it shall be observed on the preceding Friday. When any of the recognized holidays fall on Sunday, it shall be observed on following Monday. No wages shall be paid for holidays not worked.

## ARTICLE 13 REPORTING PAY

13.1 Unless provisions of a CBA provide differently, any craft employee reporting for work and for whom no work is provided, except when given notification not to report to work, shall receive two (2) hours pay at the regular straight time hourly rate. Any craft employee who starts work shall receive four (4) hours pay at the regular straight time hourly rate. Any craft employee who works beyond four (4) hours shall be paid for actual hours worked.

- 13.1.1 Whenever minimum reporting pay is provided for craft employees, they will be required to remain at the Project site available for work for such time as they receive pay, unless released sooner by the principal supervisor of the Contractor(s) or its designated representative.
- 13.1.2 The provisions of this Article are not applicable where the craft employee voluntarily quits or is out by reason of a strike, in which case he shall be paid for the actual time worked.
- 13.2 It will not be a violation of this Agreement when the EPC Contractor considers it necessary to shut down because of an emergency situation that could endanger the life or safety of any employee. In such cases, craft employees will be compensated only for the actual time worked. In the case of a situation described above whereby the Contractor(s)' request craft employees to wait in a designated area available for work, the craft employees will be compensated for the waiting time.

## ARTICLE 14 ENTIRE AGREEMENT - FAVORED NATIONS

- 14.1 This Agreement represents the complete understanding of the parties. The provisions of this Agreement shall in every instance exclusively apply to and control work performed on the site of the Project and take precedence over provisions of local, area, regional or national labor agreements. Nothing contained in the working rules, by-laws, constitution and other similar documents of the Unions or other collective bargaining agreements, shall in any way affect, modify or add to this Agreement unless otherwise specifically indicated in this Agreement. Practices not part of the terms and conditions of this Agreement shall not be recognized.
- 14.2 The Unions agree that this Agreement covers all matters affecting wages, hours and other terms and conditions of employment, and that during the term of this Agreement neither the Contractor(s) nor the Union will be required to negotiate on any further matters affecting these or any other subjects not specifically set forth in this Agreement except by mutual agreement of the Council and the Local Unions involved and the EPC Contractor.
- 14.3 Any other agreement or modification of this Agreement must be reduced to writing and signed by the EPC Contractor, the Council and the Local Unions involved.
- 14.4 All Local Unions agree that CBA renewals, extensions or amendments for the Contractor(s) on the Project shall not be less favorable than those negotiated for other signatory contractors.

## ARTICLE 15 GENERAL SAVINGS CLAUSE

15.1 If any article or provision of this Agreement shall be declared invalid, inoperative or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the tederal, state or local government, the parties shall suspend the operation of each article or provision during the period of its invalidity. Such suspension shall not affect the operation of any provision covered in this Agreement to which the law or regulation is not applicable.

## ARTICLE 16 CALIFORNIA ENERGY COMMISSION CONDITIONS OF CERTIFICATION

16.1 The EPC Contractor, contractors/subcontractors, Council and Local Unions agree to work in close cooperation and harmony to ensure that the Conditions of Certification regarding transportation and any other requirements of the California Energy Commission, are complied with.

### ARTICLE 17 AFFIRMATIVE ACTION

17.1 All affirmative action requirements will be coordinated between the affected Contractor(s), the Council and the affiliated Local Unions.

## ARTICLE 18 DRUG AND ALCOHOL POLICY

18.1 The EPC Contractor has an established drug and alcohol policy, the purpose of which is to ensure a safe work environment free from the effects of illegal drugs and alcohol. This policy is applicable to all Contractor(s) as a condition of performing work or services on the Project. The EPC Contractor drug and alcohol policy includes drug and alcohol screening of Contractors(s)' employees consistent with applicable law, including the San Francisco Municipal Code § 3300A.5.

## ARTICLE 19 DURATION OF AGREEMENT

19.1 This Agreement shall become effective on the date the contract with the successful EPC Contractor is executed by the Owner and the EPC Contractor. The Agreement shall continue in full force and effect through the completion of the scope of the Project contracted by the EPC Contractor from the Owner. The parties may mutually agree in writing to amend, extend or terminate this Agreement at any time.

# SIGNATURE PAGE PROJECT STABILIZATION AGREEMENT SAN FRANCISCO ENERGY COMPANY COGENERATION FACILITY

and Construction	Trades	Council
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San Francisco Bullding

**EPC Contractor** 

Stan Smith, Secretary-Treasurer

**Authorized Representative** 

#### SIGNATORY UNIONS

Int'i. Association of Heat and Frost insulators and Asbestos Workers, Local 16

United Brotherhood of Carpenters and Joiners of America — Millwright Local 102

Upited Brotherhood of Carpenters and Joiners of America — District

Council 46 Northern Counties

Int'l. Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers, Local 549

Int'l Union of Bricklayers and Allied Craftsmen Local 3

Carpet, Unoleum & Soft Tile Workers LB.P.A.T. Local 12

Cement Masons' Local 580 a

District Council of Northern California Glaziers Local 718

SF Energy Company Cogeneration Facility International Brotherhood of Laborers' International Union of Electrical Workers - Local 6 North America — Local 36 Hod Carriers Intern'al Ass'n of Bridge, Structural and L'aborers ' International Union of Omamental Iron Workers Local 377 North America - Local 261 District Council of Irol Northern California District Council of State of California & Vicinity Laborers Mnited Association Gof the Plumbing and International Union of Operating Pipelitting Industry of the United States and Engineers Local 3 Canada, Local 38 Operative Plasterers' Intern'al Brotherhood of Painters and Allied Trades, Local 4 United Union of Rooters. International Brotherhood of Waterproofers and Allied Workers Teamsters, Chauffeurs, Warehouse/nen Local 40 Local 216 neet Metal Workers' International Sprinkler Fifters Local 483 ssociation local 104 Painters District Council #8 Pile Driver Local #34

#### AGREEMENT for CONSTRUCTION EMPLOYMENT GOALS at the SAN FRANCISCO ENERGY COMPANY COGENERATION FACILITY

This Agreement is made and entered into	the 31st day of May, 1995, by and
between	_ (hereinafter "EPC Contractor"); the San
Francisco Building & Construction Trades	Council (hereinafter "Council") and its
affiliated local unions signatory hereta the	reinafter "Local Unions"); Young.
Community Developers, Inc. (hereinafter	"YCD"); and Aboriginal Blackman
Unlimited (hereinafter "ABU").	_

WHEREAS, San Francisco Energy Company (hereinafter "SF Energy") believes that the host community for its plants should benefit from employment and other opportunities its projects create; and

WHEREAS, SF Energy is planning to construct a nominal 240 MW cogeneration plant (hereinafter "Project") in the Bayview Hunters Point community (hereinafter the "Community"); and

WHEREAS, it is anticipated that at its peak approximately two hundred construction workers will be employed on the Project; and

WHEREAS, the parties to this Agreement desire to maximize employment opportunities for residents of the Community; and

WHEREAS, the Council and Local Unions have agreed in the Project Stabilization Agreement to exert their utmost efforts to fulfill the manpower requirements for construction of the Project; and

WHEREAS, YCD and ABU are Community-based organizations that are capable of recruiting, screening and certifying members of the Community that are interested in working on construction of the Project.

NOW THEREFORE, the parties, in consideration of the premises and covenants herein contained, mutually agree as follows:

- 1.0 The employment goals for the Project are as follows:
  - Minority 25.6%;
  - Women 6.9%:
  - Community residents 50%;
  - Apprentice positions filled by Community residents 50%

- 2.0 The Council and Local Unions agree to make good faith efforts to achieve these goals on a craft-by-craft basis and to cooperate with the selected EPC Contractor, YCD and ABU in recruiting, screening and certifying Community residents for potential employment in constructing the facility. It is also agreed that, in accordance with the Project Stabilization Agreement,:
  - (a) Community residents who are determined, available and fully qualified at the journey level shall be eligible for indenture in the applicable Local Union and shall be eligible for employment on the Project;
  - (b) Community residents who are not fully qualified at the journey level, but who have prior construction work experience, shall be eligible for indenture in the applicable Local Union, subject to the standards approved by the Division of Apprenticeship Standards, Department of Industrial Relations, State of California, and shall be eligible for employment on the Project; and
  - (c) Community residents who have no prior construction work experience, but who meet the requirements for apprenticeship in the craft of their choice, shall be eligible for indenture in the apprentice program of such craft, subject to the standards approved by the Division of Apprenticeship Standards, Department of Industrial Relations, State of California, and shall be eligible for employment on the Project.
- 3.0 Prior to commencement of construction, the Unions and SF Energy will meet with the EPC Contractor, its known subcontractors, local Community outreach organizations, YCD and ABU to discuss the construction affirmative action and residency employment goals for the Project and to agree upon strategies to achieve them. In addition, the Council, Local Unions and the EPC Contractor will request assistance from YCD and ABU, as needed, to coordinate with Chinese for Affirmative Action, Ella Hill Hutch Community Center, Mission Hiring Hall, South of Market Employment Center, and other such organizations to help achieve the goals.
- 4.0 In addition to the initial pre-construction meeting discussed in section 3.0 of this Agreement, the Council and Local Unions agree to participate in regularly scheduled meetings with the EPC Contractor, its subcontractors, YCD and ABU to review progress and plan additional measures necessary to achieve the goals.
- 4.0 The Council, Local Unions and EPC Contractor agree to comply with all applicable City and County of San Francisco ordinances and regulations regarding equal opportunity.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized officers, to be effective as of the day and year first above written.

## SIGNATURE PAGE AGREEMENT for CONSTRUCTION EMPLOYMENT GOALS

San Francisco Building and Construction Trades Council	EPC Contractor
Jacob Holand	*
Stan Smith Secretary-Treasurer	Authorized Representative
Ciral 4. Intono	James Richards
Young Community Developers, Inc.	Aboriginal Blackman Unlimited
SIGNATO	RY UNIONS
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Have Stocke	Ancienta Com
Intl. Association of Heat and Frost	Int'l. Brotherhood of Boilermakers, Iron Ship
Insulators and Asbestos Workers, Local 16	Builders, Blacksmiths, Forgers, and Helpers, Local 549
/	Local Sur
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United Brotherhood of Carpenters and	Clar'L Union of Bricklayers and Allied
Joiners of America-Millwright Local 102	Craftsmen Local 3
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United Brotherhood of Carpenters and	
Joiners of America-District Council 46	•
Northern Counties	420 00 1
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•	Carpet, Linoleum & Soft Tile Workers
	I.B.P.A.T. Local 12
N. D. Q.	D.0 VOD 1
Constitute For	Glaziers Local 718
District Council of Northern	GIAZIETS LOGAL / 10
California	
Another factor	**

Workers-Local 6 North America - Local 36 Hod Carriers Intern'al Ass'n of Bridge, Structural and Laborers' International Union of Ornamental Iron Workers Local 377 North America - Local 261 District Council of Yon Warkers State of California & Vicinity Laborers . Valted Association for the Plumbing and International Union of Operating Engineers Pipefitting industry of the United States and Local 3 Canada, Local 38 Intern'al Brotherhood of Painters and cal No. 66 Allied Trades, Local 4 United Union of Roofers, Waterproofers and International Brotherhood of Teamsters, Allied Workers Local 40 Chauffeurs, Warehousemen - Local 216 Sprinkler Atters Local 483 V orkers' international sociation kocal 104

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# APPENDIX: LORS

Applicable Laws, Ordinances, Regulations, and Standards

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#### **ALTERNATIVES**

The California Environmental Quality Act [Public Resources Code § 21100(b)(4)] and the Commission's siting regulations (Cal. Code Regs., tit. 20, § 1765) require an examination of alternatives to the applicant's proposal. CEQA and the Commission's siting regulations require the analysis to consider alternatives:

- to the project (Cal. Code Regs., tit. 14, §15126(d) and Cal. Code Regs., tit. 20, § 1765)
- to the project location (Cal. Code Regs., tit. 14, §15126(d) and Cal. Code Regs., tit. 20, § 1765)
- that are reasonable (Cal. Code Regs., tit. 14, §15126(d))
- that are feasible (Cal. Code Regs., tit. 14, §15126(d) and Cal. Code Regs., tit. 20, § 1765)
- that attain the basic project objectives (Cal. Code Regs., tit. 14, §15126(d))
- that focus on eliminating the project's significant adverse environmental impacts (Cal. Code Regs., tit. 14, §15126(d))
- that substantially lessen the project's significant adverse impacts (Cal. Code Regs., tit. 20, § 1765)

In addition, the analysis is to consider the "no project" alternative (Cal. Code Regs., tit. 14, §15126(d)).

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 whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. (Cal. Code Regs., tit. 14, § 15125(d)(5)). However, if the range of alternatives is defined too narrowly, the analysis may be inadequate. (City of Santee v. County of San Diego (4th Dist. 1989) 214 Cal.App. 3d 1438).

#### AIR QUALITY

#### FEDERAL

A new facility or a modification of an existing facility located in a federal attainment area for a given air pollutant may need to obtain a federal permit from the U.S. Environmental Protection Agency (EPA) before commencing construction. This type of permit is known as a Prevention of Significant Deterioration (PSD) permit. The PSD permit is required for sources which emit or have the potential to emit 100 tons per year or more of any federal criteria pollutant.

On January 8, 1991, EPA delegated the implementation of the federal PSD program to the District (District). The District exercises its delegated PSD authority using its own regulations, (Rule 2 of Regulation 2) which are intended to be at least as stringent as the federal PSD requirements spelled out in Title 40, United States Code section 21.

#### STATE

The California State Health and Safety Code, section 41700, requires that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have natural tendency to cause, injury or damage to business or property."

#### LOCAL

The proposed facility is subject to various District rules and regulations. Below is a synopsis of applicable District rules and regulations:

#### Regulation 1

Regulation 1, Section 301: This requirement is a restatement of the California Health and Safety Code, section 41700, stated above. The District has added in this section that 3 or more violation notices issued in a 30 day period constitute a demonstration of negligent conduct on the part of the permitted source operator.

#### Regulation 2

Regulation 2, Rule 1: General Requirements. This rule contains general requirements, definitions, and standards applicable to Rules 2 and 3 of Regulation 2. Included in this rule is the requirement that an applicant submit an application for an authority to construct and permit

to operate. This rule exempts the cooling tower and fire pump diesel engines from District permit requirements.

Regulation 2, Rule 2 - New Source Review. This rule applies to all new and modified sources. The following sections of Rule 2 are the regulations that are applicable to this project.

Section 2-2-301 - Best Available Control Technology (BACT) Requirement: This rule requires that BACT be applied for each pollutant which is emitted in excess of 10.0 pounds per day.

Section 2-2-302 - Offset Requirement, Precursor Organic Compounds and Nitrogen Oxides. This section applies to projects with an emissions increase of 50 tons per year or more of organic compounds and/or NO<sub>x</sub>. Offsets shall be provided at a ratio of 1.15 tons of emission reduction credits for each 1.0 ton of proposed project permitted emissions.

For emissions of ozone precursors (NO, or POC) greater than 15 tons per year but less than 50 tons per year, the District shall provide emission offsets from their Small Facility Banking Account at a ratio 1.0:1.0. Prior to the District granting offsets from the Small Facility Banking Account, the District shall require that the applicant install Best Available Retrofit Control Technology to their existing sources.

Section 2-2-302.2 - Emission reduction credits of precursor organic compounds may be used to offset increased emissions of nitrogen oxides at the ratio identified in Section 2-2-302 (1.15:1.0).

Section 2-2-303 - Offset Requirements, Particulate Matter (TSP), PM<sub>10</sub> and Sulfur Dioxide: If a Major Facility (a project that emits any pollutant greater than 100 tons per year) has a cumulative increase of 1.0 ton per year of PM<sub>10</sub> or SO<sub>2</sub>, emission offsets must be provided for the entire cumulative increase at a ratio of 1.0:1.0.

Emission reductions of nitrogen oxides and/or sulfur dioxide may be used to offset increased emissions of PM<sub>10</sub> at offset ratios deemed appropriate by the APCO.

A facility which emits less than 100 tons of any pollutant may voluntarily provide emission offsets for all, or any portion, of their  $PM_{10}$  or sulfur dioxide emissions increase at the offset ratio required above (1.0:1.0).

Regulation 2, Rule 2, Section 606 - Emission Calculation Procedures, Offsets: This section explains that emission offsets can be obtained from the District's Emissions Bank, the District's Small Facility Bank and/or from contemporaneous actual emission reductions. This section also indicates how to calculate the amount of offsets needed for a specific project.

Regulation 2, Rule 7: Acid Rain. This rule applies the requirements of Title IV of the federal Clean Air Act, which are spelled out in Title 40, Code of Federal Regulations, Part 72. The provisions of Part 72 will apply when EPA approves the District's Title V program, which has

not been approved at this time. The Title IV requirements will include the installation of continuous emission monitors to monitor acid deposition precursor pollutants.

#### Regulation 6

Regulation 6 - Particulate Matter and Visible Emission: The purpose of this regulation is to limit the quantity of particulate matter in the atmosphere. The following two sections of Regulation 6 are directly applicable to this project:

Regulation 6, Section 301 - Ringelmann No. 1 Limitation: This rule limits visible emissions to no darker than Ringelmann No. 1 for periods greater than three minutes in any hour.

Regulation 6, Section 310 - Particulate Weight Limitation: This rule limits source particulate matter emissions to no greater than 0.15 grains per standard dry cubic foot.

#### Regulation 9

Regulation 9, Rule 1, Section 301: Limitations on Ground Level Sulfur Dioxide Concentration. This section requires that emissions of sulfur dioxide shall not impact at ground level in excess of 0.5 ppm for 3 consecutive minutes, or 0.25 ppm averaged over 60 minutes, or 0.05 ppm averaged over 24 hours.

Regulation 9, Rule 1, Section 302: General Emission Limitation. This rule limits the sulfur dioxide concentration from an exhaust stack to no greater than 300 ppm dry.

Regulation 9, Rule 3. Nitrogen Oxides from Heat Transfer Operations: This rule limits the emission of nitrogen oxides (NO<sub>2</sub>) from existing and/or new or modified heat transfer operations. The following sections of this rule apply to this project:

Regulation 9, Rule 3, Section 303: New or Modified Heat Transfer Operation Limits. This rule limits NO<sub>x</sub> emissions from large (maximum heat input of 250 MMBtu/hr or more) new heat transfer operations to 125 ppm, adjusted to 3 percent O<sub>2</sub>, when gaseous fuel is burned.

Regulation 9, Rule 7, Section 301: Emission Limits - Gaseous Fuels. This rule limits NO<sub>x</sub> concentrations to 30 ppm dry, and CO concentrations to 400 ppm dry for boilers rated larger than 10 million BTU per hour.

Regulation 9, Rule 9, Section 301.3: Nitrogen Oxides from Stationary Gas Turbines - Emission Limits, General. Effective January 1, 1997, this rule will limit gaseous fired, SCR equipped, combustion turbines rated greater than 10 MW to 9 ppmv.

#### Regulation 10

Regulation 10, Rule 26, Gas Turbines - Standards of Performance for New Stationary Sources: This rule adopts the national maximum emission limits (40 CFR 60) which are 75 ppm  $NO_x$  and 150 ppm  $SO_2$  at 15 percent  $O_2$ . Whenever any source is subject to more than one emission limitation rule, regulation, provision or requirement relating to the control of any air contaminant, the most stringent limitation applies.

#### BIOLOGY

#### FEDERAL

Endangered Species Act of 1973, Title 16 of the United States Code, section 1531 et seq., Title 50, Code of Federal Regulations 17.1 et seq., designates and provides for protection of threatened and endangered plant and animal species and their habitat.

#### STATE

California Endangered Species Act of 1984, Fish and Game Code, sections 2050 through 2098, protects California's rare, threatened and endangered species.

Title 14, California Code of Regulations section 670.5 lists animals of California designated as threatened or endangered and section 720 defines waters of interest to the California Department of Fish and Game. Fish and Game authority to designate waters of interest is found in sections 1601 and 1603 of the Fish and Game Code.

Native Plant Protection Act of 1977, Fish and Game Code, section 1900 et seq., gives the California Department of Fish and Game the authority to designate rare, threatened and endangered plants.

California Environmental Quality Act (CEQA), Public Resources Code, section 21000 et seq., requires all governmental agencies to develop standards and procedures necessary to protect California's environmental quality and establish public procedures for identification of significant adverse environmental impacts. CEQA exempts certified state regulatory projects, including the California Energy Commission powerplant site certification program, from specific procedural requirements; these programs remain subject to other provisions of CEQA, such as the policy of avoiding significant adverse effects on the environment where feasible.

Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines), Title 14 California Code of Regulations, section 15065 ("Mandatory findings of significance") requires that a reduction in number of a rare, threatened, or endangered plant or animal species be considered a significant impact. Section 15380 ("Rare and endangered species") provides definitions and provides protection of unlisted species under the act if the species can be shown to meet the criteria for listing.

California Department of Fish and Game Operations Manual (section 1100, June 1987) provides the following policy statements and definitions relevant to the subject of mitigation:

"State policy mandates the preservation, protection, restoration, and enhancement of fish and wildlife, and recreational use thereof, to be in the public interest (FGC section 1301; Water Code section 11900)."

The California Department of Fish and Game's goals in implementing this policy are to prevent further diminishment of fish and wildlife by land and water development projects, to restore fish and wildlife whenever possible, and to assure that necessary fish and wildlife preservation measures are carried out with other project features.

#### CULTURAL

#### FEDERAL

The following requirements apply to those portions of projects in which cultural resources are encountered that may be eligible for inclusion in, have been nominated to, or are already listed in the National Register of Historic Places:

- National Historic Preservation Act of 1966 (NHPA), Title 16, United States Code, section 470 et seq. (amended 1976 by Public Law 94-422 and Public Law 94-458): established a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the U.S.
- Public Law 101-601 "Native American Graves Protection and Repatriation Act" (1990):
  This law defines "cultural items", "sacred objects", and "objects of cultural patrimony";
  establishes an ownership hierarchy; provides for review; allows excavation of human
  remains but stipulates return of the remains according to ownership; sets penalties; calls
  for inventories; and provides for return of specified cultural items.

#### STATE

- California Environmental Quality Act (CEQA), Public Resources Code, section 21000, et seq.: Requires analysis of potential environmental impacts of projects and requires application of appropriate mitigation measures.
- CEQA Guidelines (as amended May 10, 1980), Title 14, California Code of Regulations, section 15000, et seq.: Specifically, CEQA Appendix G (j), states that a project will normally have a significant effect on the environment if it will "...disrupt or adversely affect an archaeological site except as part of a scientific study...".
- Penal Code, section 622 1/2: Sets the penalties for damage or destruction of cultural resources, whether situated on private lands or within any public park or place.
- Public Resources Code, section 5097.5: Any unauthorized removal of archaeologic remains or sites located on public land is a misdemeanor.

#### LOCAL

In 1992 the planning department for the City/County of San Francisco prepared a draft element for the City/County General Plan for the preservation of historic landmarks. This policy has been completed but must undergo an environmental impact assessment and preparation of appropriate documents before it can be acted upon by the Planning Commission and Board of Supervisors. There is no firm time frame for adoption of the proposed preservation element due

to budget constraints. Until it is adopted, the City/County staff will continue to use existing plans and policies (Paez 1995).

#### San Francisco City/County: South Bayshore Regional Plan

In 1994 San Francisco City/County up-dated its Planning Code, including the South Bayshore Region, which applies to the proposed project area at Hunters Point. The following excerpts are taken from the section on resource conservation for the plan area:

- San Francisco Planning Code, Article 10 specifies county-wide policies for preservation
  of historical, architectural, and aesthetic landmarks; designates landmarks and historical
  districts; reviews and makes decisions on applications for construction, alteration, and
  demolition pertaining to landmark sites and historical districts.
  - Section 101.1 (b)(7): States that landmarks and historic buildings are to be preserved.

#### EFFICIENCY

Compliance with Federal Cogeneration Standards.

The Warren-alquist Act grants certain benefits to powerplants which qualify as cogeneration facilities and sets forth specific standards of energy use which must be met by a project in order to qualify. See, Public Resources Code section 25134.

#### **FACILITY DESIGN**

#### **FEDERAL**

- Title 29, Code of Federal Regulations, part 1910, Occupational Safety and Health Standards. Part 1926, National Safety and Health regulations for construction.
- Title 40, Code of Federal Regulations, section 112 et seq., US Environmental Protection Agency (EPA), requires a Spill Prevention Control and Countermeasure (SPCC) plan for facilities storing oil in excess of 660 gallons in any single above ground tank; 1,320 gallons in aggregate tanks above ground; and 4,200 gallons below ground.

#### STATE

- Board of Registration for Professional Engineers, Rule 145 Prohibits a California Registered Engineer from working outside the scope of the engineer's area of professional competence.
- California Business and Professions Code section 6704, et seq.; sections 6730 and 6736.
   Requires state registration to practice as a civil, electrical, mechanical or structural engineer in California.
- California Public Utilities Commission (CPUC) General Order (GO) 95 prescribes standards for overhead electric line systems.
- Labor Code section 6500 et seq. Requires a permit for construction of trenches or excavations five feet or deeper into which personnel have to descend. This also applies to construction or demolition of any building, structure, false work, or scaffolding that is more than three stories high or equivalent.
- Regulations of the following state agencies as applicable:
  - Department of Labor and Industry Regulations;
  - -- Bureau of Fire Protection:
  - Department of Public Health; and
  - Department of Water Resources.
- Title 8, California Code of Regulations, section 1500 et seq., section 2300 et seq., and section 3200 et seq. These regulations describe general construction safety orders, industrial safety orders, and work safety requirements and procedures.
- Title 8, California Code of Regulations, section 450 et seq., and section 750 et seq.
   Adopts American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel
   Code and other requirements for unfired and fired boilers.

• Title 24, California Code of Regulations, parts 2,3,4,5,6,7—Prescribes general building standards: Part 2, California Building Code 1992 (CBC), incorporates the 1991 Uniform Building Code—(UBC); Part 3, California Electrical Code (CEC), incorporates the 1990 National Electrical Code—(NEC); Part 4, California Mechanical Code (CMC), incorporates the 1991 Uniform Mechanical Code—(UMC); Part 5, California Plumbing Code (CPC), incorporates the 1991 Uniform Plumbing Code—(UPC); Part 6, Special Building Regulations (SBR).

#### LOCAL (SAN FRANCISCO CITY AND COUNTY) ORDINANCES

- City and County of San Francisco Ordinances, including the latest adopted San Francisco
  Electrical and Mechanical codes.
- San Francisco Building Code prescribes the city and county building regulations. Section 101 adopts the 1991 UBC, and the 1992 CBC, including UBC/CBC Chapter 7, requirements for Group B occupancies and UBC/CBC part IV requirements based on Types of Construction, Part V Engineering Regulations, Part VI Detailed Regulations, Chapter 67 Combustion Engines and Gas Turbines, and Chapter 70, Excavation and Grading all as modified by the San Francisco Building Code.

#### INDUSTRY STANDARDS

The industry standards used for design, fabrication, and construction are the industry standards, including all addenda, in effect as stated in equipment and construction purchase or contract documents. Where no other standard governs, the CBC will be used. In cases where conflicts between cited standards occur, the requirements of the more stringent shall govern. A summary of the standards follows:

#### General Requirements

- Design and placement of structural concrete follow the recommended practice of the American Concrete Institute (ACI), the 1992 CBC, and the Concrete Reinforcing Steel Institute (CRSI).
- Design, fabrication, and erection of structural steel follow the American Institute of Steel Construction Code (AISC) and the 1992 CBC.
- Design and erection of masonry materials follow the ACI Building Code Requirements for Masonry Structures and the 1992 CBC.
- Design of roof coverings conforms to the requirements of the National Fire Protection Association (NFPA) and Factory Mutual.

- Fabrication and erection of grating follow applicable standards of the National Association of Architectural Metals Manufacturers (NAAMM).
- Field and laboratory testing procedures for materials and material specifications generally
  follow the American Society for Testing and Materials (ASTM) specifications, and the
  American National Standards Institute (ANSI), unless noted otherwise.
- Preparation of metal surfaces for coating systems follows the specifications and standard practices of the Steel Structures Painting Council (SSPC) and National Association for Corrosion Engineers (NACE), and the specific instructions of the coatings manufacturer.
- Steel components for metal wall panels and roof decking conform to the American Iron and Steel Institute (AISI) Specifications for the Design of Cold-Formed Steel Structural Members.
- Welding procedures and qualifications for welders follow the recommended practice and codes of the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable.

#### Specific Requirements

The following list is a representative summary of an extensive list of industry standards provided by the Applicant for use on the SFEC project. For a complete list of the industry standards, please refer to appendixes A through D of the AFC.

- American Association of State Highway and Transportation Officials, "A Policy on Geometric Design of Highways and Streets," 1990.
- American Concrete Institute (ACI).
  - Building Code Requirements for Reinforced Concrete (ACI 318-89).
  - Building Code Requirements for Structural Plain Concrete (ACI 318.1-89).
  - Code Requirements for Nuclear Safety Related Structures, Appendix B (Steel Embedments only), (ACI 349), except that anchor bolts will be embedded to develop their yield strength.
- American Institute of Steel Construction (AISC).
  - Specification for Structural Steel Buildings-Allowable Stress Design and Plastic Design, June 1, 1989.
  - Allowable Stress Design Specification for Structural Joints Using ASTM A325 or A490 Bolts.
- American Iron and Steel Institute (AISI), Specification for the Design of Cold Formed Steel Structural Members, Parts 1 and 2, 1986.

- American Society of Mechanical Engineers (ASME)
  - ASME Boiler & Pressure Vessel Codes,
  - Section I Rules for Construction of Power Boilers
  - -- Section II Material Specification
  - Section V Nondestructive Examination
  - Section VIII Rules for Construction of Pressure Vessels
  - Section IX Welding and Brazing Qualifications
  - Performance Test Code (PTC) PTC- 4.4 Gas Turbine Heat Recovery Steam Generators (HRSG)
  - -- PTC-22 Gas Turbine Power Plants
  - -- PTC-23 Atmospheric Water-Cooling Equipment.
- American National Standards Institute (ANSI)
  - ANSI B31.1 Power Piping Code
  - ANSI B31.2 Fuel Gas Piping Code
  - ANSI B31.3 Chemical Plant & Petroleum Refinery Piping Code
  - ANSI C5.1 (NFPA 78) Lighting Protection Code
  - ANSI B16.25 Butt-Welding Ends
- American Petroleum Institute (API) Standard 650, Welded Steel Tanks for Oil Storage, 1988.
- American Welding Society (AWS) "Structural Welding Code" (AWS D1.1-92).
- American Society for Testing and Materials (ASTM).
- American Water Works Association (AWWA).
  - Standards for Welding Steel Tanks, (AWWA D100-84).
  - -- Standards for Prestressed Concrete Pressure Pipe, Steel Cylinder Type for Water and Other Liquids, (AWWA C301-84).
  - Standards for Reinforced Concrete Water Pipe-Noncylinder Type, Not Prestressed, (AWWA C302-87).
- Applied Technology Council, Tentative Provision for the Development of Seismic Regulations for Buildings, (ATC-3-06), Amended December 1984.
- California Energy Commission, Recommended Seismic Design Criteria for Non Nuclear Power Generating Facilities in California (June 1989), CEC Pub. No. P700-88-001.
- International Conference of Building Officials, Uniform Building Code (UBC), 1991
   Edition.

- International Standards Organization (ISO) 3945-1985 "Mechanical Vibration of Large Rotating Machines with Speed Range from 10 to 200 revs/sec — Measurement and Evaluation of Vibration Severity In Situ."
- Institute of Electrical and Electronic Engineers IEEE Standards for electrical equipment.
- National Fire Protection Association (NFPA):
  - NFPA-24, Standard for the Installation of Private Fire Service Mains and their Appurtenances; and
  - NFPA-850, Recommended Practice for Fire Protection for Electric Generating Power Plants.
- Structural Engineers Association of California, "Recommended Lateral Force Requirements and Tentative Commentary", 1990 Recommendation and Commentary.
- Structural and Miscellaneous Steel.
  - ASTM A569-Specifications for Steel Carbon (0.15 maximum percent) Hot-Rolled Sheet and Strip, Commercial Quality.
  - ASME/ANSI STS-1-1986--Steel stacks, except for circumference stiffening which will be in accordance with British Standard 4076-1978 and except that seismic design will be in accordance with UBC 1991.
- International Association of Plumbing and Mechanical Officials
- National Electric Manufacturers Association
- National Fire Protection Association Standards (NFPA), 1992
- Uniform Mechanical Code (UMC)
- Uniform Plumbing Code (UPC)
- Steel Structures Painting Council Standards (SSPC)
- Tubular Exchanger Manufacturers Association (TEMA)

The industry standards used for design, fabrication, and construction will be the industry standards, including all addenda, in effect as stated in equipment and construction purchase or contract documents. Where no other standard governs, the UBC will be used.

The codes and standards proposed by the project owner are appropriate for use on the San Francisco Cogeneration Project. If there are conflicts, the latest edition and the more stringent one shall be used.

#### GEOLOGICAL HAZARDS

- Title 24, California Code of Regulations, Part 2, known as the California Building Code 1992 (CBC) (incorporates the 1991 Uniform Building Code-UBC) for review, permitting, and inspection of grading and structures (Appendix Chapter 70 and Chapter 29 respectively).
- California Environmental Quality Act (CEQA) Guidelines, Title 14, California Code of Regulations, section 15002 (a)(3) states that "the basic purpose of CEQA is to prevent significant avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible."

#### HAZARDOUS MATERIALS

#### FEDERAL

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III, 42 United States Code, section 9601 et seq. established a nationwide emergency planning and response program and imposed reporting requirements for businesses which store, handle, or produce significant quantities of hazardous or extremely hazardous substances. The Act requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such substances are stored or handled at a facility. The requirements of this Act, as well as additional requirements for handling and storage of acutely hazardous substances, are reflected in Section 25500 et seq. of the California Health and Safety Code.

The National Fire Code, Article 85A provides design specifications and procedures applicable to furnaces and boilers fired with fuel oil, natural gas, and other similar gaseous and liquid fuels. This code is designed to provide measures for prevention of explosions in fuel fired equipment such as the Heat Recovery Steam Generator (HRSG) associated with this project.

The safety requirements for pipeline construction vary according to the population density and land use which characterize the surrounding land. The pipeline classes are defined as follows (Title 49, Code of Federal Regulations, Part 192):

- Class 1: Pipelines in locations with ten or fewer buildings intended for human occupancy.
- Class 2: Pipelines in locations with more than ten but fewer than 46 buildings intended for human occupancy. This class also includes drainage ditches of public roads and railroad crossings.
- Class 3: Pipelines in locations with more than 46 buildings intended for human occupancy, or where the pipeline is within 100 yards of any building or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12 month period (the days and weeks need not be consecutive).

The natural gas pipeline will be designed for Class 3 service and will meet California Public Utilities Commission General Order 112-D and 58-A standards as well as various PG&E standards. The natural gas pipeline must be constructed and operated in accordance with the Federal Department of Transportation (DOT) regulations, Title 49, Code of Federal Regulations (CFR), Parts 190, 191, and 192:

- Title 49. Code of Federal Regulations, Part 190 outlines the pipeline safety program procedures;
- Title 49, Code of Federal Regulations, Part 191, Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-Related Condition Reports, requires operators of pipeline systems to notify the U.S. Department of Transportation of any reportable incident by telephone and then submit a written report within 30 days;
- Title 49, Code of Federal Regulations, Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, specifies minimum safety requirements for pipelines and includes material selection, design requirements, and corrosion protection. The safety requirements for pipeline construction vary according to the population density and land use which characterize the surrounding land. This part contains regulations governing pipeline construction which must be followed for Class 2 and Class 3 pipelines.

The steam pipeline will be designed according to the ASME/ANSI B31.1 Power Piping Code. This Code also provides requirements for the fabrication, erection, examination, and testing of steam pipelines, and these requirements will be followed at the SF Energy facility. ASTM standards are followed in welding; bellow type expansion devices will not be used. All welded joints that are buried are subjected to X-ray examination and the entire steam pipeline is tested with water upon completion.

#### STATE

Hazardous materials management is addressed in Section 25500 et seq. of the California Health and Safety Code. These regulations establish the requirement for registration of any business (Business Plan) which handles acutely hazardous materials (AHM) in quantities equal to or greater than the threshold planning quantities (TPQ) listed in Appendix A of Title 40 of the Code of Federal Regulations, Part 355. Note that the California state list of acutely hazardous materials is the same as the federal list of extremely hazardous substances. Section 25500 et seq. also requires the preparation of a Risk Management and Prevention Program (RMPP), if it is determined that there is a significant likelihood that the use of the materials may pose an AHM accident risk.

California Health and Safety Code, section 25500 et seq. requires the preparation of a Business Plan which addresses in detail emergency planning and response aspects of the storage and use of hazardous chemicals at a facility.

California Health and Safety Code section 41700 requires that:

"No person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to

any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."

#### LOCAL AND REGIONAL

Local regulations incorporate the requirements of San Francisco Public Works Code Article 20, the Uniform Fire Code (UFC), and the Uniform Building Code (UBC).

The San Francisco Hazardous Materials Ordinance, Article 21 of Part II, Chapter 5 (Health Code) of the San Francisco Municipal Code, requires that businesses handling any hazardous material or mixture containing a hazardous material at or above certain specified amounts or types must obtain and keep current a Hazardous Materials Certificate of Registration and implement a Hazardous Materials Plan which is submitted with the registration application. The Hazardous Materials Plan is to contain information on: the hazardous materials used including chemical or common name and federal hazard category; the hazardous wastes generated including waste category number and, if requested by the Director of Public Health, general chemical and mineral composition; the amounts stored, locations, and container types; scale map of the business establishment; and a list of hazardous materials stored in underground storage tanks. An emergency response plan is to be included specifying immediate notification of local emergency rescue personnel; mitigation procedures; evacuation plans and procedures; and information on the presence of emergency equipment. Other information to be included in the Hazardous Materials Pian include employee training; reduction program for the use of hazardous materials and generation of hazardous waste; an Acutely Hazardous Materials (AHM) Registration Form for each AHM stored or handled in an amount greater than or equal to the threshold planning quantity specified in Title 40 of the Code of Federal Regulations, Part 355, Appendix A; and labeling of hazardous materials containers.

The San Francisco Department of Public Works requires that applicants for building permits for projects involving disturbance of 50 cubic yards of soil or more must comply with Article 20 of the San Francisco Public Works Code. This Article requires preparation of a site history, soil sampling on the property, and analysis of the soil samples to determine the presence of hazardous wastes. Specifically, this Article provides for analysis of the following: inorganic persistent and bioaccumulative toxic substances, volatile organic toxic pollutants, polychlorinated biphenyls (PCBs), Ph levels, flammability, cyanides, sulfides, methane and other flammable gases, and any other hazardous substances designated by the Director of Public Works, the Director of Public Health, or the certified laboratory conducting the analyses. If hazardous substances are present in soil the applicant must submit a site mitigation report with a determination as to whether significant environmental or health and safety risks exist, and recommended mitigation measures.

Bioaccumulative substances are substances that tend to concentrate in biological tissues, especially in fat.

The California Fire Code contains provisions regarding the storage and handling of hazardous materials. These provisions are contained in Articles 79 and 80. These requirements are generally similar to those contained in the Health and Safety Code. However, the California Fire Code has a unique requirement for secondary containment, monitoring, and treatment of toxic gases emitted through emergency venting. This requirement is generally restricted to acutely toxic materials.

The California Building Code (UBC) contains requirements regarding the storage and handling of hazardous materials which address seismic design of structures and restricts the issuance of occupancy permits until the Applicant has demonstrated compliance with Section 25500 et seq. of the Health and Safety Code. In addition, storage tanks will also be designed in accordance with American Water Works Association requirements as described in section D-1000, and standards of the American Society of Mechanical Engineers (ASME), Section VIII, Division 1.

#### LAND USE

The cogeneration plant is affected by the land use plans, policies, and restrictions of a number of local, state, and federal agencies: the Bay Conservation and Development Commission (BCDC), the State Lands Commission, the Metropolitan Transportation Commission (MTC), the San Francisco Redevelopment Agency, the City and County of San Francisco and the Port of San Francisco.

#### State Lands Commission

The Port site is within bay tidelands that fall under the administrative jurisdiction of the State Lands Commission (SLC). However, the Burton Act (1968) delegates this administrative jurisdiction to the San Francisco Port Commission and Board of Supervisors. Before any development can occur in these "trust" lands, the Port Commission must enter into a lease agreement with the project developer.

To approve a lease to use lands within its public trust authority, the Port Commission must make the following findings:

- That the lease, contract or other instrument is in accordance with the terms of the grant or grants under which title to the tide or submerged lands in question is held;
- That the proceeds of such lease, contract, or other instrument shall be deposited in an appropriate fund expendable only for statewide purposes authorized by a legislative grant;
- That such lease, contract, or other instrument is in the best interest of the State<sup>2</sup>.

The proposed cogeneration plant will use wastewater from the Southeast Water Pollution Control Plant (WPCP), thus diverting from the San Francisco Bay discharges that could harm the Bays delicate ecosystem. This is consistent with the provision that "... such development ... be in the public interest..." (see footnote 2).

<sup>&</sup>lt;sup>2</sup> Chapter 1333 of the California Code of Regulations empowers the San Francisco Port Commission to "... grant ... franchises thereof for limited periods not exceeding 66 years for wharves and other public uses and purposes and the lease of said lands, facilities, or any part thereof for limited periods not exceeding 66 years, and ... Such lease or leases, franchises ... shall be for purposes consistent with the trusts upon which the lands are held by the state and with the requirements of commerce or navigation, or if the Harbor Commission of the City and County of San Francisco determines that any portion of the transferred lands is not required for the foregoing uses described in this section, such as lease or leases ... may be for the purposes of such development and use as the commission finds to be in the public interest ..." (emphasis added).

Metropolitan Transportation Commission Markime Element: This is the same document as the Seaport Plan. The intended purpose of land use policy in the Seaport Plan is linked much more closely to the San Francisco Bay Plan.

Bay Conservation and Development Commission

Waterfront Special Area Plan: In the section of the Waterfront Special Area Plan entitled "India Basin" the following policies that affect land use decisions are identified:

BCDC-13: Policy 1: "The India Basin area should be developed as a major waterfront park in accordance with the recreation and open space plan of the City of San Francisco."

Port site: This policy is not applicable to the powerplant at this location.

Transmission Lines: This policy is not applicable to the transmission lines at the proposed location.

BCDC-2: Policy 2: "Limited development, preferably Bay-oriented commercial recreation, should be permitted on the shoreline, provided it is incidental to public access and water-related recreation and does not obstruct public access."

Port site: Since shoreline access is not available at this location, the powerplant at this site will have no impact on commercial activities serving nearby shoreline access. Therefore, this policy is not applicable to this portion of the project.

Transmission Lines: The transmission lines will have no impact on commercial activities serving shoreline access points. The policy is therefore, not applicable to these structures at either site.

<u>Power Plant Non-Siting Study</u>: The Power Plant Non-Siting Study does not contain goals, objectives, policies, or implementation measures with which this project must comply. In fact, its primary purpose is to serve as a technical study that analyzes the appropriateness and feasibility of locating large powerplants (i.e. thermal power plants that do not use cogeneration technology) along the shore in the Bay region.

In addition, the maritime use restrictions contained within these documents serve to trigger a consistency review mandated by the Federal Coastal Zone Management Act. This is usually conducted by the BCDC where non-maritime uses may impact maritime activities. Since cogeneration plants below 300 MW are exempted from the maritime use restrictions the power

<sup>&</sup>lt;sup>3</sup> Generally, BCDC - # refers to item # in a document prepared under the authority of the Bay Conservation and Development Commission. Similarly, CCSF refers to the City and County of San Francisco; PSF, Port of San Francisco; CEQA, the California Environmental Quality Act; and DCCSF, draft City and County of San Francisco.

plant cannot interfere with maritime uses. A consistency determination by the BCDC is, therefore, unnecessary.

Local and Local Joint Powers Agencies City and County of San Francisco, San Francisco Master Plan:

In the Commerce and Industry Element the following policies that affect land use decisions are identified:

CCSF-1 (City and County of San Francisco-1): Objective 5, Policy 11: "Pursue permitted non-maritime development on port properties."

The proposed cogeneration plant is clearly a non-maritime use. The site exists within Port Authority jurisdiction. The proposed plant would be consistent with this policy.

The proposed transmission lines (electrical, natural gas, steam, and waste water) will be constructed underground and are ancillary to the proposed plant and, therefore, are consistent with this policy.

In the Recreation and Open Space Element the following policies that affect land use decisions are identified:

CCSF-2: Objective 2, Policy 3: "Preserve sunlight in public open spaces."

Port site: The plant at the Port site will have no impact on open space/wetland areas located approximately 1,000 feet to the south. The plant at the Port site will be consistent with this policy.

Transmission Line: Since the transmission line will be buried underground, this policy is not applicable to these facilities.

CCSF-3: Objective 3, Policy 1: "Assure that new development adjacent to the shoreline capitalizes on its unique waterfront location, considers shoreline land use provisions, improves visual and physical access to the water, and conforms with urban design policies."

Port site: The plant at this site is partially consistent with this policy for the reasons stated:

• It does not "capitalize on the unique waterfront location."

It does not require a waterfront location, nor does it benefit from improved waterfront access.

The proposed Port site itself is not immediately adjacent to the water but is located at a distance of approximately 1,000 feet west of the Bay. Because the proposed Port site is part of a single parcel that is adjacent to the Bay, shoreline standard land use pianning practices would consider this site as existing adjacent to the Bay. However, a representative of the Port of San Francisco has advised Staff that the Port site should not be considered adjacent to the Bay.

- It does "consider shoreline land use provisions" in that the port site is zoned M-2 (heavy industry), the designation necessary for a use of this intensity and, as a cogeneration plant, is exempt from the highly restrictive land use designations of the San Francisco Bay Plan and the Seaport Plan.
- While it does not "improve visual and physical access to the water" it, also, does not
  default from these features. In fact, existing uses, i.e., grain storage facilities and large
  cargo loading cranes already clutter visual access. The proposed powerplant will add,
  incrementally to that clutter.
- It does conform with most urban design policies.

Transmission Lines: Since the transmission lines are to be buried underground these facilities will be consistent with the policy.

In the Urban Design Element the following policies that affect land use decisions are identified:

CCSF-4: Objective 1, Policy 1: \*Recognize and protect major views in the city, with particular attention to those of open space and water."

CCSF-5: Objective 2, Policy 7: "Recognize and protect outstanding and unique areas that contribute in an extraordinary degree to San Francisco's visual form and character."

Port site: The Port site does not offer an area of uniqueness that needs to be protected. This policy is not applicable to the Port site.

Transmission Lines: Since the transmission lines are to be buried underground, these facilities will be consistent with this policy.

CCSF-6: Objective 3, Policy 1: "Promote harmony in the visual relationships and transitions between new and older buildings." This policy is addressed in the Section of the report entitled Visual Resources.

CCSF-7: Objective 3, Policy 4: "Promote building forms that will respect and improve the integrity of open spaces and other public areas."

Port site: The power plant at the Port site will not impact open space or public areas. The policy is not applicable to this site.

Transmission Lines: Since the transmission lines are to be buried underground, these facilities will be consistent with this policy.

CCSF-8: Objective 3, Policy 6: "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction."

CCSF-9: Objective 4, Policy 1: "Protect residential areas from the noise, pollution and physical danger of excess traffic."

CCSF-10: Objective 4, Policy 15: "Protect the livability and character of residential properties from the intrusion of incompatible new buildings."

Port site: Residential areas are at least one-half mile from the powerplant site. If it were the only heavy industrial use in the vicinity, the powerplant at this site could be considered incompatible with residential areas, and even those existing more than one-half mile away. However, there are other uses in the vicinity that are just as intense. The Port property on which the powerplant site is a portion includes the Port's consolidated containerized cargo operation and the intermodal transfer facility, i.e., rail yards. In addition, a debris-concrete operation has been approved by the City and County of San Francisco for a portion of the property to the south of the powerplant site. Further, a major U.S. Postal Service distribution facility exists to the west, across Cargo Way. The powerplant at the port site will be consistent with this policy.

Transmission Lines: Since the transmission lines are to be buried underground, these facilities will be consistent with this policy.

In the Environmental Protection Element the following policies that affect land use decisions are identified:

CCSF-11: Objective 3, Policy 2: "Promote the use and development of shoreline areas consistent with the Comprehensive Plan and the best interests of San Francisco."

Port site: The Master Plan and other regulatory documents with which it must be consistent (San Francisco Bay Plan, Seaport Plan, South Bayshore Plan, Waterfront Special Area Plan) designate the site for maritime use only with a more restrictive designation of "Port Priority Use" imposed to comply with the Federal Coastal Zone Management (Federal) and McAteer-Petris (state) Acts. In addition, the Draft Waterfront Land Use Plan identifies the powerplant portion of the port property as being surplus to port needs and indicates that a cogeneration plan at this location would be an appropriate use. Proposed amendments to the Seaport Plan, issued on January 10, 1995 by the Seaport Plan Advisory Committee, recommends removal of the ten acre cogeneration site from the Port Priority Use designation. Once adopted by the MTC these amendments will render moot any concern that the proposed cogeneration site will interfere with or otherwise impact maritime uses at Piers 94/96.

Transmission Lines: Since the transmission lines are to be buried underground, these facilities will be consistent with this policy.

CCSF-12: Objective 4, Policy 4: "Promote the development of nonpolluting industry and insist on compliance of existing industry with established industrial emission control regulations.

CCSF-13: Objective 7, Policy 1: "Preserve and add to public open space in accordance with the objectives and policies of the Recreation and Open Space Plan."

This policy is a restatement of those identified as CCSF-2, 3, 4, 5.

In the Central Waterfront Element the following policies that affect land use decisions are identified:

CCSF-14: Objective 1, Policy 1: "Encourage the intensification and expansion of industrial and maritime uses."

Innes site: The Innes site is not within the central waterfront plan.

Port Site: The powerplant at this site will be consistent with this policy.

Transmission Lines: This policy is not applicable to the proposed transmission lines.

CCSF-15: Objective 1, Policy 3: "Promote new development which has minimal adverse environmental consequences. Assure that adverse environmental impacts of new development are fully mitigated." This policy appears directed at local decision makers and is not applicable to this project. However, the Energy Commission, acting on behalf of local decision makers, will ensure that all adverse impacts are mitigated to the fullest extent feasible.

CCSF-16: Objective 3, Policy 1: "Promote industrial expansion through maximizing and intensifying the use of existing facilities and properties, rehabilitating older industrial structures, and developing vacant land with industrial uses."

Port site: The powerplant at this site will be consistent with this policy because it does represent an intensification of the use of existing industrially developed land.

Transmission Lines: The transmission lines are ancillary to the power plant and are, therefore, consistent with this policy.

CCSF-17: Objective 4, Policy 4: "Reserve land adjacent to the waterfront as required for maritime support use."

Port site: Currently, the proposed site is reserved for maritime support uses. The proposed cogeneration plant is not considered a maritime use by the Seaport Plan. However, the powerplant non-siting study exempts cogeneration plants from these restrictive designations. In addition, the Port of San Francisco in its Draft Waterfront Land Use Plan, has declared the proposed site as surplus to maritime needs and recommends changing its designation to allow specified non-maritime uses of which a cogeneration plant is one. Therefore, the powerplant at this site is consistent with the requirements of the policy.

Transmission Lines: The transmission lines are ancillary to the power plant and are, therefore, consistent with this policy.

CCSF-18: Objective 5, Policy 1: "Promote the retention and improvement of existing commercial activities that support local residential, industrial, maritime, and recreational uses."

Port site: The powerplant at this site appears to be consistent with this policy.

Transmission Lines: These are structures that are ancillary to a primary use that is consistent with this policy, ie., a cogeneration plant. In addition, the transmission lines will be buried and will not hinder port-related activities at this site. Therefore, the transmission lines at this site will be consistent with this policy.

CCSF-19: Objective 5, Policy 4: "Encourage water-oriented commercial-recreation activities at public access points along the shoreline."

Port site: The powerplant at this site will have no impact on commercial activities. This policy, therefore, is not applicable to the powerplant at this site.

Transmission Lines: The transmission lines will have no impact on commercial activities at either location; therefore, this policy does not apply.

CCSF-20: Objective 10, Policy 1: "Reinforce the visual contrast between the waterfront and hills by limiting the height of structures near the shoreline. Relate the height and bulk of new structures away from the shoreline to the character of the topography and existing development."

CCSF-21: Objective 10, Policy 2: "Protect and create views of the downtown skyline and the Bay. Design and locate new development to minimize obstruction of existing views."

In the South Bayshore Element the following policies that affect land use decisions are identified:

CCSF-22: Objective 10, Policy 1: "Generally industry in the district<sup>s</sup> should be attractive in appearance and labor intensive."

CCSF-23: Objective 10, Policy 3: "Adjustments in zoning boundaries should be considered and landscaped strips should be developed to separate industry from residences." This policy appears directed at local decision makers and is not applicable to this project. However, the Energy Commission, acting on behalf of local decision makers will ensure that residential areas will be separated from the project by landscaped buffers.

i.e., South Bayshore area.

CCSF-24: Objective 10, Policy 4: "Except for marine uses, the shoreline should not be used for industry."

Port site: This policy appears to be intended to apply to shoreline properties that are not within the jurisdiction of the Port of San Francisco because by nature and definition, maritime uses for which the port is responsible for introducing and maintaining are industrial. Therefore, this policy is not applicable to the powerplant at this location.

Transmission Lines: Since the transmission lines are underground, this policy is not applicable.

CCSF-25: Objective 12, Policy 2: "Parks are proposed along the length of the non-industrially used shoreline. In general there should be a new emphasis on the water as a visual asset and upon linking the district with the shore."

<u>San Francisco Municipal Planning Code</u> Section 101.1 Master Plan Consistency and Implementation was adopted by the voters of San Francisco in 1987. It established eight priority policies with which land development projects must be consistent if approval is to be granted. Basically, Proposition "M", as it was known, established the following:

- (a) "The Master Plan shall be an integrated, internally consistent and compatible statement of policies for San Francisco. To fulfill this requirement, after extensive public participation and hearings, the City Planning Commission shall in one action amended the Master Plan by January 1, 1988."
- (b) "The following Priority Policies '(CCSF-26 through CCSF-33)' are hearby established. They shall be included in the preamble of the Master Plan and shall be the basis upon which inconsistencies in the Master Plan are resolved:"

CCSF-26: Section 101.1(b)(1): "The existing neighborhood-serving retail uses be preserved and enhanced for future opportunities for resident employment in and ownership of such businesses enhanced."

CCSF-27: Section 101.1(b)(2): "The existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods."

Port site: The powerplant at the Port site will introduce a heavy industrial use into an area characterized by very intense industrial uses. It will not impact housing or affect neighborhood cultural and economic diversity. Therefore, the powerplant at this location will be consistent with this policy.

Transmission Lines: This policy is not applicable to these structures.

CCSF-28: Section 101.1(b)(3): "The City's supply of affordable housing be preserved and enhanced."

CCSF-29: Section 101.1(b)(4): " That commuter traffic not impede Muni transit service or overburden our streets or neighborhood parking."

CCSF-30: Section 101.1(b)(5): "That a diverse economic base be maintained by protecting our industrial and service sectors from displacement due to commercial office development and that future opportunities for resident employment and ownership in these sectors be enhanced."

CCSF-31: Section 101.1(b)(6): "The City achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake."

CCSF-32: Section 101.1(b)(7): "That landmarks and historic buildings be preserved."

CCSF-33: Section 101.1(b)(8): "That our parks and open space and their access to sunlight and vistas be protected from development."

CCSF-34: Section 226. Manufacturing and Processing

Section 226(p) indicates that a "steam power plant" is permitted within M-1, and M-2 zones.

Port site: The site at the port location is zoned M-2. The compliance with the Planning Code is addressed in CCSF-35.

Transmission Lines: Consistency with the zoning code is addressed in CCSF-36.

CCSF-35: Section 210.6. M-2 Districts: Heavy Industrial

These districts are the least restricted as to use and are located at the eastern edge of the City, separated from residential and commercial areas. The heavier industries are permitted with fewer requirements as to screening and enclosure than M-1 Districts, but many of these uses are permitted only as conditional uses or at a considerable distance from Residential Districts.

Permitted: Uses that are suited to the zoning classification applicable to the parcel (e.g., a single family house is permitted in a residential without further discretionary review as long as it complies with all zoning and building code requirements);

Not permitted: Uses that are clearly inappropriate for the zoning classification applicable to the parcel (e.g., an asbestos factory in a residential zone);

Conditional: Uses that may or may not be appropriate for the zoning classification based on its compatibility with surrounding land uses (e.g., a liquor store may be acceptable in a commercial zone but, the parcel in question is 250 feet away from a percel zoned residential and containing an elementary school.

Land uses can be identified as being one of three types:

Port site: The powerplant at the port site is consistent with the following:

(a) Section 226(f) indicates that a "steam power" plant is permitted within the M-2 zone. Cogeneration is a form of steam generation in that its secondary process uses waste steam for other manufacturing processes.

Section 210.6 indicates that heavier industrial uses are permitted in an M-2 zone but that "...many of these uses are permitted only as conditional uses or at a considerable distance from Residential Districts."

Since the port site is about 0.5 miles from the nearest residential district, the powerplant at this site is consistent with these provisions.

Transmission Lines: Consistency with the zoning code is addressed in CCSF-36.

CCSF-36: Section 203. Effect On Certain Public Services

"This Code shall not limit the temporary use of any property as a public voting place, or the construction, installation or operation by any public agency or private corporation of any street, of any utility pipe, conduit or sewer, of any power, transmission, communication or transportation line or of incidental appurtenances to any of the foregoing when located in a street, alley, utility easement or other right-of-way."

Port site: This standard is not applicable to this site.

Transmission Lines: This standard appears to contain the only reference to secondary infrastructure such as natural gas pipelines, water pipelines, electric transmission lines. It does not address specifically the regulation of these structures. It does appear that such structures placed within public easements or rights-of-way, would be permitted. Therefore, the gas, steam, waste water, and electric transmission lines will be consistent with this standard.

CCSF-37: Section 295. Height Restrictions on Structures Shadowing Property Under the Jurisdiction of the Recreation and Park Commission states that:

- (a) "No building permit authorizing the construction of any structure that will cast any shade or shadow upon any property under the jurisdiction of, or designated for acquisition by the Recreation and Park Commission may be issued except upon prior action of the City Planning Commission pursuant to the provisions of this ordinance, provided, however, that the provisions of this ordinance shall not apply to building permits authoring:
- (1) Structures which do not exceed 40 feet in height.

- (2) Structures which cast any shade or shadow upon property under the jurisdiction of or designated for acquisition by the Recreation and Park Commission only during the first hour after sunrise and/or the last hour before sunset (Land Use Figure 13).
- (3) Structures to be constructed on property under the jurisdiction of the Recreation and Park Commission for recreational and park-related purposes.
- (4) Structures of the same height and in the same location as structures in place on June 6, 1984.
- (5) Projects for which a building permit application has been filed and either (i) a public hearing has been held prior to March 5, 1984 on a Draft Environmental Impact Report published by the Department of City Planning prior to July 3, 1984.
- (6) Projects for which a building permit application and an application or environmental evaluation have been filed prior to March 5, 1984 and which involve physical integration of new construction with rehabilitation of a building designated as historic either by the San Francisco Board of Supervisors as a historical landmark or by the State Historic Preservation Office as a State Historic Landmark, or placed by the United States Department of the Interior on the National Register of Historic Places and which are located on sites that but for separation by a street or alley are adjacent to such historic building."

Port site: This standard does not apply to the project at this site.

Transmission Line: This standard does not apply to these structures at either site.

CCSF-39: Section (III)(B): "Setbacks should be provided by all development except active maritime and other permitted water-dependent uses..." 30' minimum from publicly owned property used for recreation and park purposes; 15' minimum from all streets; and 15' from side yard.

Port site: This standard is not applicable to the powerplant at the site.

Transmission Line: This standard is not applicable to the transmission lines.

CCSF-40: Section (III)(C): "Building height is limited to maximum 40"

Port site: This standard is not applicable to the powerplant at the site.

Transmission Line: This standard is not applicable to the transmission lines.

CCSF-41: Section (III)(G): "No property should be used wholly or principally for open and uncovered storage of supplies, semi-finished, or finished products, or other materials, unless such storage is dependent on a water-front (sic) location and is screened from view."

Port site: This standard is not applicable to the powerplant at the site.

Transmission Line: This standard is not applicable to the transmission lines.

<u>Proposed Draft South Bayshore Plan:</u> In the proposed South Bayshore Plan the following items that affect land use decisions are identified:

DCCSF-1: Objective 1, Policy 2: "Restrict toxic chemical industries and other industrial activities with significant environmental hazards from locating adjacent to or nearby existing residential communities."

Port site: The nearest residences to the Port site are 0.5 miles away; therefore, the project at this site would be inconsistent with this policy.

Transmission Lines: This policy is not applicable to the transmission lines.

#### Port of San Francisco

## **Draft Waterfront Land Use Plan**

The Draft Waterfront Land Use Plan is intended to develop a long range plan to guide and regulate development on lands under the jurisdiction of the Port of San Francisco. Chapter 4 of the Draft Waterfront Land Use Plan establishes development standards to apply to cogeneration plants that may be sited within the Cargo Way Mixed Use Opportunity Area. These are as follows:

PSF-1: "State-of-the-art design for modern power facilities which should complement existing waterfront use to the greatest extent possible, including the nearby 1925 brick fire station."

PSF-2: "State-of-the-art environmental protection that mitigates emissions and other impacts on resident populations, wildlife habitats or other sensitive receptors in the South Bayshore area."

PSF-3: "Public benefits to the maximum extent, including open spaces and public access improvements and possibly public restrooms, maintenance support for Islais Creek open space improvements, public meeting rooms and parking."

In addition, the Draft Plan identifies development standards for any use to be located within the boundaries of the Cargo Way Mixed Use Opportunity Area. These are PSF-4 through PSF-7.

PSF-4: "New uses in the Cargo Way Opportunity Area should provide support for, and avoid negative impacts on the Islais Creek public access and open space improvements."

Port site: The power plant at this site will be in partial compliance with this standard in that it will not have negative land use impacts on the Islais Creek public access area.

Transmission Lines: This policy is not applicable to the transmission lines.

PSF-5: "Ensure that any use in these Opportunity Areas does not preclude nearby maritime activities, including rail service provided in the Intermodal Container Transfer Facility (ICTF) to the Port."

Port site: The Applicant has stated and the Port of San Francisco concurs that the Port site can accommodate the land requirements of the power plant, and it will not conflict with plans to expand the containerized cargo operation at piers 94/96 nor will it impair the activities or functions of the ICTF terminal along Cargo Way.

Transmission Lines: This policy is not applicable to the transmission lines.

PSF-6: "Maximize the economic benefit to the Port of San Francisco from long-term uses in these Opportunity Areas."

PSF-7: " Ensure that new uses do not interfere with rail service to the Port." Please see comments for PSF-5.

# San Francisco Redevelopment Agency

Since the site is not located within the boundaries of any existing redevelopment plan, no inconsistencies exist.

#### NOISE

#### FEDERAL

The U.S. Environmental Protection Agency (EPA) has promulgated guidelines (EPA 1974) for the protection of outdoor activities against interference due to noise. These guidelines identify a day-night level (L<sub>th</sub>) of 55 dBA as adequate to provide this protection. These guidelines, however, do not carry the force of regulation. Existing state and local laws and ordinances will control.

Regulations supporting the Occupational Safety and Health Act of 1970 (29 C.F.R. § 1910 et seq.) stipulate maximum noise levels to which workers at a facility may be exposed. These OSHA noise regulations are designed to protect workers against the effects of noise exposure, and list permissible noise level exposure as a function of the amount of time to which the worker is exposed (see NOISE: Table 1, below). OSHA regulations also dictate hearing conservation program requirements and workplace noise monitoring requirements.

NOISE: TABLE 1
Worker Noise Exposure Standards

Duration of Noise (Hrs/day)	A-Weighted Noise Level (dBA)	
8.0	90	
6.0	92	
4.0	95	
3.0	97	
2.0	100	
1.5	102	
1.0	105	
0.5	110	
0.25	115	

Source: OSHA regulations

#### STATE

There are no state regulations governing off-site (community) noise. Rather, the state planning law (Gov. Code, § 65302) requires that local authorities such as counties or cities prepare and adopt a general plan. Government Code section 65302(g) requires that a noise element be included to establish acceptable noise limits.

The California Environmental Quality Act (CEQA) requires that significant environmental impacts on the environment be identified, and that such impacts be eliminated or mitigated to the extent feasible. The CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix G, item (p)) define a significant effect on the environment as one which will "[i]ncrease substantially the ambient noise levels for adjoining areas...". The CEQA Guidelines further require that the impacts of the project be considered cumulatively in conjunction with those of other projects planned for the area (Cal. Code Regs., tit. 14, § 15065(c)).

The California Occupational Safety and Health Administration (Cal-OSHA) has promulgated Occupational Noise Exposure Regulations (Cal. Code Regs., tit. 8, § 5095 et seq.) which set employee noise exposure limits. These standards are equivalent to the federal OSHA standards described above.

#### LOCAL

The Environmental Protection Element of the San Francisco Master Plan contains a section entitled "Transportation Noise," adopted on September 19, 1974 (Gitelman 1994). The plan deals solely with transportation noise impacts and contains no section dealing with fixed or stationary noise sources. In the absence of an applicable Master Plan Noise Element, one must rely on the applicable noise control ordinance for guidance, in this case the San Francisco Police Code.

The San Francisco Police Code (SF 1973) includes Article 29, Regulation of Noise (last updated on August 10, 1973), which regulates noise from fixed or stationary sources. This code covers both construction noise (S.F. Police Code, §§ 2907, 2908) and operational noise (S.F. Police Code, §§ 2909, 2915).

San Francisco Police Code section 2907 limits noise emanations from powered construction equipment to 80 dBA at a distance of 100 feet (except impact tools such as pile drivers and jackhammers, which must be muffled as practicable), and limits the noise from helicopters used in the construction to 85 dBA at 100 feet, for a maximum of two hours per day and four hours per week. Section 2908 prohibits any construction noise between the nighttime hours of 8 p.m. to 7 a.m. which exceeds ambient noise levels by 5 dBA at the nearest property line.

San Francisco Police Code section 2909 sets numerical limits for noise from fixed sources based on zoning districts; see NOISE: Table 2, below. If measured at the boundary between two zoning districts, the quieter limit prevails.

NOISE: TABLE 2
San Francisco Police Code – Fixed Source Noise Levels

Zoning District	Time of Day	Sound Level (dBA)
R-1-D, R-1, R-2 (One- and two-family residential)	10 p.m 7 a.m. 7 a.m 10 p.m.	50 55
R-3, R-3.5, R-4, R-5, R-3-C, R-3.5-C, R-4-C, R-5-C (Multi- family residential)	10 p.m 7 a.m. 7 a.m 10 p.m.	55 60
C-1, C-2, C-3-O, C-3-R, C-3-G (Commercial)	10 p.m 7 a.m. 7 a.m 10 p.m.	60 70
M-1 (Light industrial)	Any time	70
M-2 (Heavy industrial)	Any time	75

Source: San Francisco Police Code section 2909 (SF 1973)

San Francisco Police Code section 2915, General Noise Regulations, sets a limit on any noise emanations regardless of any other provisions in the code. This section states that it is unlawful to make, without justification, any unnecessary, excessive or offensive noise. Such noise is further defined (S.F. Police Code section 2901.11), in the absence of other specific maximum levels (such as those in section 2909), as any noise which exceeds the ambient noise level by 5 dBA or more.

## **ODOR**

#### FEDERAL

The US-EPA does not regulate nuisance odors, only air toxics and criteria air pollutants.

#### STATE

The California Energy Commission, under the procedures prescribed in the California Environmental Quality Act (CEQA), is required as the lead agency to implement feasible mitigation measures or feasible alternatives identified during the project review for projects that will otherwise cause significant adverse impacts. To determine which odors cause a significant adverse effect, the Energy Commission uses the CEQA Guidelines, Title 14, California Code of Regulations, section 15000 et. seq., Appendix G, which states that "[a] project will normally have a significant effect on the environment if it will have a substantial, demonstratable negative aesthetic effect." The CEQA Guidelines Appendix I, continues with "[w]ill the project result in the creation of objectionable odors?" Therefore, consistent with the CEQA Guidelines, the Energy Commission will recommend feasible mitigation for significant nuisance odors caused by the project.

#### DISTRICT RULES

The Bay Area Air Quality Management District (District) controls nuisance odors from stationary sources such as the proposed project through the implementation of Rule 1-301, Public Nuisance, and Regulation 7, Odorous Substances:

Rule 1-301 Public Nuisance: "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." 7 8

Regulation 7 Odorous Substances: "This places general limitations on odorous substances and specific limitations on certain odorous compounds. The limits of this regulation shall not be applicable until the Air Pollution Control Officer receives odor complaints from ten or more complainants within a 90-day period. A person shall not discharge any odorous substance which remains odorous after dilution with odor free air, or in excess of maximum allowable emissions concentrations."

<sup>&</sup>lt;sup>1</sup> This prohibition is also in Section 41700 of the California Health and Safety Code.

District staff has determined a "considerable number of persons" to be five or more confirmed separate complaints on a single day. Complaints are usually confirmed with the inspector and complainant detecting the odor together.

# PALEONTOLOGICAL RESOURCES

#### STATE

The January 1, 1979 "Clean Water Grant Program for the Protection and Preservation of Cultural Resources" (California Water Resources Control Board, Rev 6-11) defines cultural resources to include paleontologic values and provides guidelines for preservation; it also summarizes other applicable legislation. Data recovery techniques are discussed in Section 7.4.

Other state laws pertaining to paleontologic resources include:

- California Environmental Quality Act (CEQA), Public Resources Code, § 21000, et seq.
- CEQA Guidelines (as amended May 10, 1980), Title 14, California Code of Regulations, § 15000. et seq: Specifically, CEQA Appendix G (j), states that a project will normally have a significant effect on the environment if it will "...disrupt or adversely affect a paleontological site except as part of a scientific study...". Also Appendix I asks whether the project will affect paleontologic resources.
- Penal Code, § 622.5: Sets the penalties for damage or destruction of cultural (includes paleontologic) resources, whether situated on private lands or within any public park or place.
- Public Resources Code, § 5097.5: Any unauthorized removal of paleontologic remains or sites located on public land is a misdemeanor.

#### PROFESSIONAL GUIDELINES AND CRITERIA

In early 1995 the Society for Vertebrate Paleontology (SVP), a national professional organization, distributed a revised set of draft guidelines and criteria which outline acceptable professional practices in the conduct of paleontologic resource surveys, data recovery, analysis, and curation (SVP 1995). During the time that the draft guidelines are undergoing review, many professional paleontologists in California have chosen to adhere to the proposed mitigation and monitoring requirements.

# PUBLIC HEALTH

#### **FEDERAL**

- The Clean Air Act (42 U.S.C. §7401 et seq.). Section 109(b)(1) of the Clean Air Act (CAA) adopted in 1970 established authority for adoption of Ambient Air Quality Standards to protect the public from adverse health effects of air pollution. Section 110 required that states adopt State Implementation Plans to attain compliance (see next bullet) with these standards by 1982. The deadline for attainment of the standards for ozone and CO was subsequently delayed until 1987. The Clean Air Act was amended again in 1990. State implementation plans are now under review by EPA. The amendments also allowed additional time to achieve compliance with the CO and ozone standards. The amount of additional time allowed is dependent on the degree of non-attainment.
- National Ambient Air Quality Standards (40 C.F.R. Part 50). The U.S. Environmental Protection Agency has established ambient air quality standards for nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and lead. Primary standards are designed to protect public health and secondary standards are intended to protect the public welfare from effects such as nuisance, soil deposition, and reduction in visibility. The Environmental Protection Agency classifies areas as attainment, unclassified, or non-attainment, depending on whether or not the monitored ambient air quality results demonstrate compliance (attainment), insufficient data available (unclassified), or non-compliance (non-attainment) with air standards.

#### STATE

- California Health and Safety Code section 39606 requires that the California Air Resources Board (ARB) adopt ambient air quality standards to protect the public health. Pursuant to this section, the ARB has adopted standards for O<sub>3</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, lead, hydrogen sulfide (H<sub>2</sub>S), and NO<sub>2</sub>. These standards are defined in Title 17, California Code of Regulations, section 70100 et seq.
- California Health and Safety Code section 40910 et seq. requires local air pollution control districts to adopt plans to maintain and achieve compliance with State and federal ambient air quality standards at the "earliest practicable date". These plans were to be submitted to the California Air Resources Board no later than December 31, 1990. The level of controls required for each pollutant depend on the amount of time required to reach attainment. In most non-attainment areas, districts are required to adopt permitting programs that result in no net increase in non-attainment pollutants or their precursors from new or modified stationary sources.

- California Health and Safety Code sections 39650 et seq. mandate the Air Resources Board and the Department of Health Services to establish safe exposure limits for toxic air pollutants and identify pertinent best available control technologies. They also require that the new source review rule for each air pollution control district include regulations that require new or modified procedures for controlling the emission of toxic air contaminants.
- California Health and Safety Code section 41700 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."

#### LOCAL

- The rules and regulations of the Bay Area Air Quality Management District establish local requirements for compliance with State and Federal Ambient Air Quality Standards. These rules are incorporated in the State Implementation Plan in conjunction with other district rules. Emission reductions resulting from these rules form the basis of the plan by which the District proposes to achieve compliance with State and Federal Ambient Air Quality Standards. As part of its plan, the District has developed regulations limiting emissions from specific sources. These regulations prohibit the construction or operation of a source of pollution that would violate specific emission limits. Specific rules relating to public health include:
  - Regulation 1-301 (Public Nuisance). This regulation prohibits emissions in quantities that adversely affect public health, other businesses, or property.
  - Regulation 11, Rule 10 (Hexavalent Chromium Emissions From Cooling Towers). This rule limits hexavalent chromium emissions from cooling towers by eliminating the use of chromium-based chemicals for cooling water treatment.

## SAFETY

#### FEDERAL

- Title 29, United States Code Section 651 et seq. (Occupational Safety and Health Act
  of 1970)
- Title 29, Code of Federal Regulations Sections 1910.1 1910.1500 (Occupational Safety and Health Administration Safety and Health regulations)
- Title 29, Code of Federal Regulations Sections 1952.170 1952.175 (Approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the federal requirements found in §§ 1910.1 - 1910.1500)

#### STATE

- Labor Code Section 142.3 (Authorizing the Occupational Safety and Health Board to establish safety and health standards)
- Labor Code Section 6300 et seq. (Establishing the responsibilities of the Division of Occupational Safety and Health)
- Title 8, California Code of Regulations, Section 450 et seq. (Applicable requirements of the Division of Industrial Safety, including Unfired Pressure Vessel Safety Orders, Construction Safety Orders, Electrical Safety Orders, and General Industry Safety Orders)

#### LOCAL

- San Francisco Fire Code
- San Francisco County Health Code Article 21

The commission uses the phrase "Safety and Health Program" to refer to the measures the Applicant will take to ensure compliance with applicable LORS during the construction or operation phases of the project. It requires both a Construction Safety and Health Program and an Operation Safety and Health Program. The measures in these plans are derived from applicable sections of state and federal law. Below is a list of major items that are required to complete both Safety and Health Programs.

Construction Health and Safety Program:

- Injury and Illness Prevention Plan (Cal. Code Regs., tit. 8, § 1509);
- Fire Protection and Prevention Plan (Cal. Code Regs., tit. 8, § 1920);
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 1514 1522).

## Operation Health and Safety Program:

- Injury and Illness Prevention Program (Cal. Code Regs., tit. 8, § 3203);
- Fire Prevention Plan (Cal. Code Regs., tit. 8, § 3221);
- Emergency Action Plan (Cal. Code Regs., tit. 8, § 3220);
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401 3411).

## Construction

The Construction Safety Orders found in Title 8 of the California Code Regulations contain health and safety requirements promulgated by Cal/OSHA which are applicable to the construction phase of the project (Cal Code Regs., tit. 8 § 1500 et seq.). The various plans required by the regulations are incorporated in the project Construction Safety and Health Program. The major plans are:

- Construction Injury and Illness Prevention Program (IIPP) (Cal. Code Regs., tit. 8, § 1509);
- Construction Fire Protection and Prevention Plan (Cal. Code Regs., tit. 8, § 1920);
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 1514 1522);
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401 3411).

The Construction Safety Orders also contain additional specific worker safety and health requirements applicable to construction activities. In addition, the requirements of the Electrical Safety Orders (Cal. Code Regs., tit. 8 §§ 2299 - 2974) and Unfired Pressure Vessel Safety Orders (Cal. Code Regs., tit. 8, §§ 450 - 544) may be applicable to the project.

#### Operation

During the operation phase of the project, many of the Electrical Safety Orders and Unfired Pressure Vessel Safety Orders referenced under Construction above will be applicable. In addition, the Division of Industrial Safety has also promulgated regulations applicable solely to

operations. These are contained in the General Industry Safety Orders (Cal. Code Regs., tit. 8, § 3200 et seq.). The Applicant will incorporate these requirements into its Operation Safety and Health Program, the major elements of which include:

- Injury and Illness Prevention Program (Cal. Code Regs., tit. 8, § 3203)
- Emergency Action Plan (Cal. Code Regs. tit. 8, § 3220)
- Fire Prevention Plan (Cal. Code Regs., tit. 8, § 3221)
- Personal Protective Equipment Program (Cal. Code Regs., tit. 8, §§ 3401 3411)

Injury and Illness Prevention Program (IIPP): The Applicant provided a draft outline for an Injury and Illness Prevention Program (IIPP) (SFEC 1994). The outline contained sections on management responsibilities, hazard management, safe work practices, inspections, training and communication procedures. The final program will contain detailed information regarding procedures for identifying, evaluating, and preventing occupational safety and health hazards, establishing safe work practices and protective equipment requirements. The program will also include a discussion on proposed practices for safety inspections, injury and illness investigations, safety training, and record keeping. The Applicant will need to submit an expanded Operations Illness and Injury Prevention Program to Cal/OSHA for review and comment.

Cal-OSHA will review and provide comments on the IIPP as the result of an on-site consultation at the request of the applicant, during which a Cal-OSHA representative completes a physical survey of the site, and analyzes the work practices and points out those practices which are likely to result in illness or injury. The on-site consultation will give Cal-OSHA an opportunity to evaluate the applicant's IIPP and apply it directly to activities taking place on-site (Kleinerman 1994).

Emergency Action Plan: California Code of Regulations, title 8, Section 3220 contains the requirements for an Emergency Action Plan. The AFC and the data responses contain sufficient information to complete an emergency action plan, including a synopsis of the emergency operating procedures and preliminary information on fire procedure, ammonia handling, and emergency training and safety inspections. Under condition SAFETY-2, the Applicant submits a final Operations Emergency Action Plan to Cal/OSHA, after an on-site consultation, for review and comment (Kleinerman 1995).

<u>Fire Protection Plan</u>: California Code of Regulations, title 8, Section 3221 establishes the requirements for an Operation Fire Prevention Plan. The AFC contained information regarding the proposed fire protection plan, which discussed the following topics:

- On-site Fire Protection Systems including carbon dioxide extinguishing systems, preaction sprinkler systems, a dry pipe deluge system, hand-held fire extinguishers, and fire detection and alarm systems;
- Local Fire Protection Services (see Table 1).

The City of San Francisco Fire Department (CSFFD) agrees that the preliminary information provided by the applicant indicates that the project will meet the minimum requirements for fire protection (Gravanis 1994). Staff is proposing that the applicant submit a final Fire Protection Plan to the California Energy Commission Compliance Project Manager (CPM) and the CSFFD for review and approval to satisfy proposed Conditions of Certification 1 and 2.

<u>Personal Protective Equipment Program</u>: The purpose of the Personal Protective Equipment Program is to ensure that employers comply with applicable requirements for the provision and use of Personal Protective Equipment (PE), and to provide employees with the information and training necessary to implement the program.

Under California Code of Regulations, title 8, Sections 3380 - 3400, personal protective equipment is required whenever hazards are encountered which, due to process, environment, chemicals, or mechanical irritants, are capable of causing injury or impairment of body function as a result of absorption, inhalation, or physical contact. The project's operational environment will create potential situations where personal protective equipment may be required.

The Applicant's PE Program shall include a written policy on the use of PE and methods of communicating it to the employees, selection of the proper type of equipment, training of employees on the correct use and maintenance of the equipment, and enforcement of PE use. The Applicant's PE program shall also include the use of devices which provide respiratory protection, hearing conservation, eye protection, and head protection.

General Safety: In addition to the specific plans listed above, there are other requirements, some of which are referred to as "safe work practices", that are imposed by various worker safety LORS applicable to this project. These requirements are grouped as follows.

Lighting: To protect workers from inadequate lighting, Condition of Certification Safety-3 addresses the design and installation of exterior lighting.

Hazardous Materials Releases: System design and administrative procedures will reduce the likelihood of an accidental release of acutely hazardous materials that could affect workers.

Smoking: The Applicant shall not permit smoking in an area designated in the National Electrical Code (NEC) as Class I, Division I and 2. These locations are areas where ignitable concentrations of flammable gases or vapors exist or where volatile flammable liquids or flammable gases are handled, processed, or used. Signs restricting smoking in those areas of the project site will be posted to protect the facility and workers.

Lock-out/Tag-out: California Code of Regulations, title 8, Sections 2320.4, 2320.5, 2320.6, 2530.43, 2530.86, 3314, and 6003 address lock-out and tag-out safety practices and programs are effective accident prevention methods which reduce employee exposure to moving equipment, electrical shock, and hazardous and toxic materials. Lock-out is the placement of a padlock, blank flange, or similar device to ensure that the equipment will not be operated until the lock-out device is removed. Tag-out is the use of warning signs that caution personnel that equipment cannot be energized until the lock-out device is removed. Warning signs can also be used to alert employees about the presence of hazardous and toxic materials. The Applicant's lock-out/tag-out program shall include steps for applying locks and tags, steps for removing locks and tags, and employee training on lock-out/tag-out procedures.

Confined Spaces Entry Program: California Code of Regulations, title 8, Sections 5156 - 5159 address the minimal standards for preventing employee exposure to dangerous air contaminants and/or oxygen deficiency in confined spaces. A confined space is any space that limits the means of egress, which is subject to toxic or flammable contaminants or has an oxygen deficient atmosphere. Examples of confined spaces are silos, tanks, vats, vessels, boilers, compartments, ducts, sewers, pipelines, vaults, bins and pits. The Applicant shall take the following steps to ensure worker safety during work in confined spaces.

Prior to entering a confined space, site personnel will evacuate or purge the space and will disconnect lines that provide access for substances into the space. The air in the vessels will be tested for oxygen deficiency, and the presence of both toxic and explosive gases and vapors, before entry into the confined space is permitted. Lifelines or safety harnesses will be worn by anyone entering the confined space, and a person will be stationed outside in a position to handle the line and to summon assistance in case of emergency. Appropriate respirators will be available whenever hazardous conditions may occur.

Hot Work: Hot work is defined as any type of work that causes a spark and can ignite a fuel source. Examples of this type of work are welding, cutting and brazing. Prior to proceeding with hot work, the applicant will require a work authorization from the project's assigned Safety Officer. The control operator, in conjunction with the shift supervisor, will decide whether hot work is required on a job and if a work authorization will be required. Before hot work is undertaken, the area will be inspected, the job shall be posted and, depending on what is located in the area, additional safeguards may be implemented.

Contaminated Soils Cleanup: The Phase I and Phase II site assessment of the Port site indicates that there is soil contamination. Worker safety issues will be addressed in the site Health and Safety Plan which will be developed under the voluntary cleanup plan to be conducted under the auspices of DTSC Region 2.

Neighborhood Energency Response Team Training: In the event of a major disaster such as an earthquake, San Francisco public health officials may not be able to respond to the plant in a timely manner. Plant staff shall be trained to handle plant and medical emergencies. Since a disaster will impact the surrounding community, the San Francisco Department of Public

Health recommends that the project owner participate in the San Francisco Fire Department Neighborhood Emergency Response Team (NERT) training. Condition of Certification HAZ-14 addresses this concern (Hernandez 1995).

# SOCIOECONOMICS

#### LOCAL

# Final Draft South Bayshore Plan (Proposal for Adoption January 1995)

The South Bayshore Plan relied heavily on citizen input during the seven-year period devoted to developing the plan. Citizen response to surveys identified specific goals and objectives for inclusion in the South Bayshore Plan. These specific goals and objectives are summarized into two broad needs:

- 1) The need to arrest the demographic decline of the local population, particularly African Americans, and improve its economic position by giving greater priority to job and business growth than to housing growth.
- 2) The need to harmonize different land uses, particularly elimination of conflict between housing and industry, elimination of truck traffic through residential and neighborhood commercial areas, and reduction of health and environmental hazards caused by waste water discharge and industrial byproducts.

Objective 1: Stimulate business, employment, and housing growth within the existing general land use pattern by resolving conflicts between adjacent industrial and residential areas.

Objective 5: Preserve and enhance existing residential neighborhoods.

Objective 9: Improve linkage between growth in South Bayshore industrial areas and employment and business needs of the Bayview Hunters Point community; Policy 1: Increase employment in local industries.

Objective 17: Support community economic development and revitalization through energy management and alternative energy technologies; Policy 1: Promote the South Bayshore as an area for implementing energy conservation and alternative energy supply initiatives.

Objective 17: Policy 2: Strengthen linkages between district energy planning efforts and overall community development goals and objectives.

# San Francisco Municipal Planning Code, Section 101.1 Master Plan Consistency and Implementation

This plan was established by the voters of San Francisco in 1987. It established eight priority policies with which land development projects must be consistent if approval is to be granted. The following priority policies apply to Socioeconomic Resources.

- (b)(2) That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods.
- (b)(3) That the City's supply of affordable housing be preserved and enhanced.

## City and County of San Francisco Master Plan. Urban Design Element

Objective 4, Policy 15: Protect the livability and character of residential properties from the intrusion of incompatible new buildings.

## City and County of San Francisco Master Plan. Commerce and Industry Element

Objective 1 Policy 1: Encourage development which provides substantial net benefits and minimizes undesirable consequences. Discourage development which has substantial undesirable consequences that cannot be mitigated.

Objective 3 Policy 1: Promote the attraction, retention, and expansion of commercial and industrial firms which provide employment improvement opportunities for unskilled and semi-skilled workers.

Objective 3 Policy 2: Promote measures designed to increase the number of San Francisco jobs held by San Francisco residents.

Objective 3 Policy 3: Emphasize job training and retraining programs that will impart skills necessary for participation in the San Francisco labor market.

# Draft Waterfront Land Use Plan.

Chapter 4 of the Draft Waterfront Land Use Plan establishes development standards to apply to cogeneration plants that may be sited within the Cargo Way Mixed Use Opportunity Area. The following standards apply to construction of the project at the Port site:

Public benefits to the maximum extent, including open spaces and public access improvements and possibly, public restrooms, maintenance support for Islais Creek open space improvements, public meeting rooms and parking.

Maximize the economic benefit to the Port of San Francisco from long-term uses in these Opportunity Areas.

# SOIL AND WATER RESOURCES

#### **FEDERAL**

The Clean Water Act, Title 33, United States Code section 1251 et seq., requires any point source discharge into U.S. Waters to obtain a National Pollutant Discharge Elimination System (NPDES) permit. This requirement now includes stormwater discharges, both during construction and operation. In California, responsibility for administering the NPDES program has been delegated to the Regional Water Quality Control Boards. The San Francisco Bay Regional Water Quality Control Board will administer the National Pollutant Discharge Elimination System Permit for the proposed project. In addition, sections 304(g) and 307(c) of the Clean Water Act, Title 33, United States Code sections 1314(g) and 1317(c), and Title 40, Code of Federal Regulations, part 122.50 sets forth pretreatment standards for discharges to publicly owned wastewater treatment works.

Resource Conservation and Recovery Act, Title 40, Code of Federal Regulations, sections 260 et seq., provides procedures for identifying hazardous wastes and prescribes methods for handling and disposal of hazardous and nonhazardous wastes to prevent surface and groundwater contamination.

Comprehensive Environmental Response, Compensation and Liabilities Act, Title 42, United States Code, sections 9601 et seq., Title 40, Code of Federal Regulations, sections 300 to 350, establishes the responsibilities of government and industry for the release or threatened release of hazardous substances, provides reporting requirements for businesses that store, handle, treat manufacture, or dispose of hazardous materials. This act also establishes requirements for businesses handling large amounts of hazardous chemicals, including underground storage tanks. These requirements include emergency planning and community information about these facilities.

#### STATE

California Code of Regulations, title 23, section 2510 et seq., sets forth regulations pertaining to water quality implications of waste discharged to land.

California Water Code section 461 and Water Commission Resolution 77-1 encourage conservation of water resources and maximum reuse of wastewater, particularly in water-short areas. State Water Resources Control Board Resolution 75-58, discourages the use of fresh inland water for power plant cooling and encourages the use of wastewater for power plant cooling.

Porter-Cologne Water Quality Control Act of 1967, 23 California Code of Regulations, California Water Code section 13260 et seq., provides the Regional Water Quality

Control Boards with jurisdiction to control the discharge of pollutants into surface and groundwater bodies, and onto the land. In a 1991 amendment to the Act (Water Code § 13551), use of potable water for industrial uses was prohibited if suitable reclaimed water is available and other requirements are met (Water Code § 13550). A 1993 amendment (Water Code § 13552.6) also specifically prohibits the use of potable water for cooling towers if suitable reclaimed water is available and other specified requirements are met (Water Code § 13550).

#### LOCAL

San Francisco Municipal Building Code, Chapter 70. The San Francisco Building Code adopts the Uniform Building Code, including Chapter 70 which sets standards for grading and erosion control.

San Francisco Public Works Code, Article 20, Ordinance 253-86. Requires analysis of site history, soil sampling and testing and submittal of a report under specified conditions.

San Francisco Public Works Code, Article 4.1. Regulates industrial discharges to the sewer system.

## TRANSMISSION LINE SAFETY AND NUISANCE

#### FEDERAL

## **Aviation Safety**

Title 14, Code of Federal Regulations, Part 77, "Objects Affecting Navigable Airspace"

Federal Aviation Administration (FAA) Form 7460-1 "Notice of Proposed Construction or Alteration" (NPCA)

Advisory Circular (AC) No. 70/7460-1H. "Obstruction Marking and Lighting"

AC 70/7460-2H. "Proposed Construction or Alteration of Objects That May Affect the Navigable Airspace"

National Ocean Service, National Oceanic and Atmospheric Administration "Airport Facility Directory" 1995

#### STATE

#### Fire Hazards

Public Resources Code sections 4292-4296. "Mountainous, Forest-, Brush-, and Grass-Covered Lands"

Title 14. California Code of Regulations, sections 1250-1258: "Fire Prevention Standards for Electric Utilities"

#### Hazardous Shocks

California Public Utilities Commission (CPUC) General Order (GO)-95, "Rules for Overhead Electric Line Construction"

CPUC GO-128, "Rules for Construction of Underground Supply and Communications Systems"

Title 8, California Code of Regulations, section 2700 et seq.: "High Voltage Electrical Safety Orders."

## LOCAL

#### Noise

San Francisco Police Code, Section 2909, Regulation of Noise (SF 1973).

# INDUSTRY CODES AND STANDARDS

# Nuisance Shocks

The American National Standards Institute (ANSI)/IEEE Standard 80-1986, An American National Standard, The Institute of Electrical and Electronics Engineers (IEEE) Guide for Safety in AC Substation Grounding

National Electric Safety Code (NESC), (ANSI) C2, Section 9, Rule 92 E; Rule 93 C 6, Section 23, Rule 232 B1c, C1c, D1c.

#### TRAFFIC AND TRANSPORTATION

#### **FEDERAL**

- Title 49, Code of Federal Regulations, Part 171, Hazardous Material Regulations, addresses the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49, CFR, Part 350 et seq., Federal Motor Carrier Safety Regulations, addresses safety considerations for the transport of goods, materials, and substances over public highways.

#### STATE

- California Vehicle Code sections 31303 et seq., Hazardous Materials, address the transportation of hazardous materials, the routes used, and restrictions thereon. Specifically, the transporter shall avoid, whenever practicable, congested thoroughfares, places where crowds are assembled, and residence districts as defined in section 515 of the Vehicle Code.
- California Vehicle Code sections 34000 et seq., Flammable and Combustible Liquids, address the transportation of flammable and combustible liquids over public roads and highways.
- California Vehicle Code sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34502-7 and 34510-11, Safety Regulations, address the safe operation of vehicles, including those which are used for the transportation of hazardous materials.
- California Vehicle Code sections 2500-2505 address the issuances of licenses by the Commissioner of the California Highway Patrol (CHP) for the transportation of hazardous materials including explosives.
- California Vehicle Code sections 12804-12804.5 address the licensing of drivers and the
  classifications of licenses required for the operation of particular types of vehicles. In
  addition, it requires the possession of certificates permitting the operation of vehicles
  transporting hazardous materials.
- California Streets and Highways Code sections 117, 660-711 require an encroachment permit from the State Department of Transportation for facilities that require construction, maintenance, or repairs on or across state highways.
- California Vehicle Code section 35780; Streets and Highways Code sections 660-711;
   and Title 21, California Code of Regulations sections 1411.1-1411.6 state that overload

approvals from the State Department of Transportation are required for transportation of excessive loads over state highways.

#### LOCAL

# City and County of San Francisco

- The City and County of San Francisco Traffic Code, Article 11, requires a permit from the San Francisco Department of Parking and Traffic for obstruction of traffic on public streets.
- The City and County of San Francisco Master Plan, Transportation Element establishes
  goals and policies and identifies specific implementation measures for City and County
  transportation and traffic systems.
- The City and County of San Francisco Public Works Code section 723.2, addresses encroachment permits for work within City streets.
- The City and County of San Francisco uses California Vehicle Code section 35780 as authority to permit the transportation of oversized loads on City streets.

# SIGNIFICANCE CRITERIA

The following criteria are used by the Energy Commission to determine whether a project-related impact is potentially significant.

#### STATE

#### CEOA Guidelines (Calif. Code of Regs. tit. 14, §§ 14100 et seq.)

- Appendix G (I), states that a project will normally have a significant environmental effect
  if it will "cause an increase in traffic which is substantial in relation to the existing traffic
  load and capacity of the street system";
- Appendix I (II.13.a), environmental checklist asking if a proposal will result in "generation of substantial additional vehicular movement";
- Appendix I (II.13.b), environmental checklist asking if proposal will result in "effects on existing parking facilities, or demand for new parking";
- Appendix I (II.13.c), environmental checklist asking if proposal will result in "substantial impact upon existing transportation systems";

- Appendix I (II.13.d), environmental checklist asking if proposal will result in "alterations
  to present patterns of circulation or movement of people and/or goods";
- Appendix I (II.13.e), environmental checklist asking if proposal will result in "alterations to waterborne, rail or air traffic"; and
- Appendix I (II.13.f), environmental checklist asking if proposal will result in "increase in traffic hazards to motor vehicles, bicyclists or pedestrians".

#### VISUAL

#### CITY AND COUNTY

The project is located within the City and County of San Francisco. The City and County comprise a joint entity that has a number of documents that contain laws, ordinances, regulations, standards, policies, and plans that apply to the project.

#### San Francisco Master Plan

The San Francisco Master Plan is authorized by Section 3.524 of the Municipal Charter. It consists of the seven required policy elements and a number of area plans (CCSF 1986a). The area plan covering the project area is the South Bayshore Element. Several of the plan elements contain policies regarding visual resources.

#### Urban Design Element

The Urban Design Element specifies objectives and policies to emphasize neighborhood characteristics and image, provide a sense of nature and continuity with the past, moderate major new development to complement the city pattern, and improve the neighborhood environment.

## City Pattern Section

Policy 1 of the City Pattern section of the Urban Design Element is to:

"Recognize and protect major views in the city, with particular attention to those of open space and water."

The discussion regarding this policy states in part that:

"Overlooks and other viewpoints for appreciation of the city and its environs should be protected and supplemented by limitation of buildings and other obstructions where necessary and by establishment of new viewpoints at key locations."

Part of the discussion regarding Policy 2 of the City Pattern section states that:

"Individual buildings and other structures should stand out prominently in the city pattern only in exceptional circumstances, where they signify the presence of important community facilities and occupy visual focal points that benefit from buildings and structures of such design."

#### Conservation Section

The Conservation section of the Urban Design element states in part that:

"...the water of the Bay is still a natural area that can be seen and used by the city's residents as an important part of their lives."

Objective 2 of the Urban Design Element, in the Conservation section states:

"Conservation of resources which provide a sense of nature, continuity with the past, and freedom from overcrowding."

Policy 3 related to Objective 2 is to:

"Avoid encroachments on San Francisco Bay that would be inconsistent with the Bay Plan or the needs of the city's residents."

The discussion regarding Policy 3 states in part that:

"Specific plans for sectors of the shoreline...should emphasize access to the Bay by the city's residents.... Access to the Bay...also includes visual contact through views of the water and of water-related activities. The system of access requires careful review of development and land use at the water's edge, and similar review of projects further inland that will affect physical and visual contact with the water." (emphasis added)

# Major New Development Section

Objective 3 of the Urban Design Element, in the Major New Development section, states:

"Moderation of major new development to complement the city pattern, the resources to be conserved, and the neighborhood environment."

The discussion of Objective 3 includes the statement that:

"The scale of each new building must be related to the height and bulk in the area, and to the wider effects upon the skyline, views and topographic form."

The discussion regarding major new development includes a list of fundamental principles, several of which are applicable:

"1.D. Low buildings along the waterfront contribute to the gradual tapering of height from hilltops to water that is characteristic of San Francisco and allows views of the Ocean and the Bay."

- "11. A building situated in a visually dominant position, whose exterior is blank and uninteresting, does not relate to surrounding development and tends to repel the observer's attention."
- "12. A long or wide building becomes excessively bulky in appearance when its height significantly exceeds that of buildings in the surrounding area."
- \*14. Bulky buildings that intrude upon or block important views of the Bay, Ocean or other significant citywide focal points are particularly disruptive.\*

Several policies relevant to visual resources are related to Objective 3, as follows.

## Policy 2:

"Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance."

## Policy 4:

"Promote building forms that will respect and improve the integrity of open spaces and other public places."

The discussion related to Policy 4 states in part that:

"New buildings should not block significant views of public open spaces especially large parks and the Bay. Buildings near these open spaces should permit visual access, and in some cases physical access, to them. Buildings to the south, east and west of parks and plazas should be limited in height or effectively oriented so as not to prevent the penetration of sunlight to such parks and plazas.

# Policy 5:

Relate the height of buildings to important attributes of the city pattern and to the height and character of existing development."

# Policy 6:

"Relate the bulk to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction."

The discussion related to Policy 6 states in part that:

"When buildings reach extreme bulk, by exceeding the prevailing height and prevailing horizontal dimensions of existing buildings in the area, especially at prominent and exposed locations, they can overwhelm other buildings, open spaces and the natural land forms, block views and disrupt the city's character. Such extremes in bulk should be avoided by establishment of maximum horizontal dimensions for new construction above the prevailing height of development in each area of the city."

## Neighborhood Environment Section

Objective 4 of the Urban Design Element, in the Neighborhood Environment section, states:

"Improvement of the neighborhood environment to increase personal safety, comfort, pride and opportunity."

Policy 15 related to Objective 4 is to:

"Protect the livability and character of residential properties from the intrusion of incompatible new buildings."

# Recreation and Open Space Element

## Shoreline Section

Objective 3 of the Recreation and Open Space Element, in the Shoreline section, is:

"Provide continuous public open space along the shoreline unless public access clearly conflicts with maritime uses or other uses requiring a waterfront location."

Policy 1 related to Objective 3 is to:

"Assure that new development adjacent to the shoreline capitalizes on its unique waterfront location, considers shoreline land use provisions, improves visual and physical access to the water, and conforms with urban design policies."

The discussion of Policy 1 in regard to urban design states that new developments should, among other things:

Avoid shadowing areas of public use;

- Maintain visual access to the water from more distant inland areas by preserving view corridors and lowering the profile of buildings;
- Screen development from view from the shoreline if it will detract from the natural setting of the shoreline; and
- Provide ample natural landscaping.

The discussion further states that:

"These policies governing land use, open space and urban design should be applied to new non-maritime developments within the Shoreline Zone designated in this plan.... The Shoreline Zone covers the city's entire shoreline but varies in degree to which it extends inland depending on the quantity of existing open space and public recreation facilities in the area, the patterns of land ownership, and on the amount of new development anticipated. For the most part, development at the water's edge is of primary concern. There may be developments further inland, however, which affect physical and visual contact with the water or affect the use of the shoreline for open space. Shoreline policies on open space and urban design should be applied to these developments as well."

# South Bayshore Area Plan

The South Bayshore Area Plan contains several policies related to visual resources.

The Recreation section contains the following relevant policy and plan proposal:

\*2. A marine-oriented recreation area is proposed at India Basin.\*

The Industry section contains the following relevant policies and plan proposals:

- \*1. Generally, industry in the district should be attractive in appearance and labor intensive.
- 3. Adjustments in zoning boundaries should be considered and landscaped strips should be developed to separate industry from residence.
- 4. Except for marine uses, the shoreline should not be used for industry."

The Urban Design section contains the following relevant policies and plan proposals:

- "2. Parks are proposed along the length of the non-industrially used shoreline. In general there should be a new emphasis on the water as a visual asset and upon linking the district with the shore.
- 4. The hills should be emphasized as design features and the hilltops kept as open landscaped view points."
- Landscaped buffer strips should be developed which delineate use districts and screen industry from homes."

## Municipal Code

The Municipal Code (CCSF 1994) serves as the City and County zoning code. It was last revised in May 1994. Generally, whereas the Master Plan provides very general land development guidelines, the Planning Code provides specific guidance that regulates the development of land within the City and County of San Francisco.

# Height and Bulk Districts

Article 2.5 of the Municipal Code addresses height and bulk restrictions for buildings and structures. The Zoning Maps of the code show that for both the Port Site (Map 8H) the height limitation is 40 feet. However, the Zoning Administrator for the San Francisco Planning Department has stated that the project is exempt from the height limit under Section 260(b)(2)(M) of the Planning Code (Passmore 1995). (This subsection exempts structures necessary for the operation of industrial plants where such structures and equipment do not contain separate floors.) The map gives the bulk designation of "X" to the site, which Section 270 of the code states means that bulk limits are not applicable, except for the situation covered by Section 260(a)(3), which does not apply.

#### WASTE

#### FEDERAL

Resource Conservation and Recovery Act (42 U.S.C. §6901 et seq.). The Act, known as RCRA, sets forth standards for the management of hazardous solid wastes. The provisions of RCRA may be administered in each state by the U.S. Environmental Protection Agency (EPA). However, the law also allows EPA to delegate the administration of the RCRA program to the various states. When a state receives final EPA authorization, its regulations have the force and effect of federal law. EPA grants final authorization when a state program is shown to be equivalent to the federal requirements. California received final authorization on August 1, 1992.

RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6921 requires EPA to promulgate regulations identifying hazardous wastes subject to the management standards either by listing them or describing characteristics which qualify the wastes as hazardous.

Section 6922 requires generators of hazardous waste to comply with requirements regarding:

- record keeping practices which identify quantities of hazardous wastes generated and their disposition.
- labeling practices and use of appropriate containers,
- use of a manifest system for transportation, and
- submission of periodic reports to the U.S. EPA or authorized state.

RCRA also establishes requirements applicable to hazardous waste transporters, including record keeping, compliance with the manifest system, and transportation only to permitted facilities.

Amendments to RCRA passed in 1984 broadened regulatory control and banned land disposal of untreated hazardous wastes.

- Title 40, Code of Federal Regulations, part 260. This part contains regulations
  promulgated by the U.S. Environmental Protection Agency (EPA) to implement the
  requirements of the RCRA as described above. Characteristics of hazardous waste are
  described in terms of ignitability, corrosivity, reactivity, and toxicity; specific types of
  wastes are listed.
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) (42 U.S.C. § 9601 et seq.). Persons in charge of on-shore facilities are

required to report to the federal government any spill or other unpermitted release of a hazardous substance to the environment in a reportable quantity. Title 40, Code of Federal Regulations, section 302.4, sets forth the list of all hazardous substances under Superfund and the reportable quantities for each.

#### STATE

 Public Resources Code section 40000 et seq. (California Integrated Waste Management Act of 1989). These sections, comprising Division 30 of the Public Resources Code, regulate solid waste management in California and created the California Integrated Waste Management Board. The Board is required to adopt and revise minimum standards for solid waste handling and disposal, including design, operation, maintenance and ultimate reuse of solid waste processing or disposal facilities.

Local government has the primary responsibility for solid waste management and planning. Each county and city must prepare and submit to the Integrated Waste Management Board a county-wide integrated waste management plan which includes source reduction and recycling elements, a county-wide siting element, and a summary of significant waste management problems facing the county. Within each county, an enforcement agency may be designated to carry out permitting, inspection, and enforcement of regulations at solid waste landfills, incinerators, and transfer and processing stations.

- Title 14, California Code of Regulations, section 17020 et seq. These regulations set forth planning guidelines for county solid waste management plans, minimum standards for solid waste handling and disposal, guidelines to ensure conformance of solid waste facilities with county solid waste management plans, as well as enforcement and administration provisions.
- California Health and Safety Code section 25100 et seq. (Hazardous Waste Control Act
  of 1972, as amended). This act creates the framework under which hazardous wastes
  must be managed in California. It mandates the State Department of Health Services
  (now the Department of Toxic Substances Control under the California Environmental
  Protection Agency, or Cal EPA) to develop and publish a list of hazardous and extremely
  hazardous wastes, and to develop and adopt criteria and guidelines for the identification
  of such wastes. It also requires hazardous waste generators to file notification statements
  with Cal EPA and creates a manifest system to be used when transporting such wastes.
  Additionally, transporters of hazardous wastes must hold valid registrations with Cal
  EPA.
- California Health and Safety Code section 25500 et seq. (Hazardous Materials Release Response Plans and Inventory). This portion of the Code requires businesses to prepare plans relating to the handling and release or threatened release of hazardous materials.
   Quantities of hazardous materials or mixtures (including hazardous waste) handled by

businesses are established which, if exceeded, require the preparation and implementation of a business plan. Business plans must include emergency response plans and procedures, and information on hazardous wastes including chemical composition, and maximum amounts handled. If certain quantities of acute hazardous materials are handled, the preparation of a Risk Management and Prevention Program may be required.

- Title 22, California Code of Regulations, section 66001 et seq. These sections set forth
  the state's minimum standards for the management of hazardous and extremely hazardous
  wastes, thereby implementing the Hazardous Waste Control Act of 1972, as amended.
  - Title 22, California Code of Regulations, section 66262.10 et seq. establishes requirements for generators of hazardous waste. Under these sections, waste generators must determine if their wastes are hazardous according to either specified characteristics or lists of wastes. As in the Federal program, hazardous waste generators must obtain EPA identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, hazardous waste must only be handled by registered hazardous waste transporters. Generator requirements for record keeping, reporting, packaging, and labeling are also established.
- California Water Code section 13000 et seq. (Porter-Cologne Water Quality Control Act). This law regulates the discharge of wastes which could affect water quality and is designed to protect surface and groundwaters of the state against contamination and loss of beneficial use. The Act requires the State Water Resources Control Board to classify wastes according to the risk of impairing water quality and the types of disposal sites according to the level of protection provided for water quality.

Regional Water Quality Control Boards must review and classify waste disposal sites consistent with the classifications adopted by the State Board. The regional boards also issue waste discharge requirements addressing the nature and limiting the release of any wastes which could degrade waters of the state. Discharge of a hazardous substance which is not in compliance with waste discharge requirements requires notification of the State Office of Emergency Services in accordance with the spill reporting provision of the State Toxic Disaster Contingency Plan.

For purposes of spill reporting, the State Water Resources Control Board must establish reportable quantities of hazardous wastes and hazardous materials based on their potential to degrade surface or groundwater and the attendant environmental and health risks.

 Title 23, California Code of Regulations, section 2510 et seq. These sections (Chapter 15, Discharges of Waste to Land) establish waste and site classifications and waste management requirements for waste treatment, storage, or disposal accomplished by landfills, surface impoundments, waste piles, and land treatment facilities.

Article 2 contains a waste classification system which provides the basis for determining which wastes may be discharged at each class of waste management unit.

Article 3 contains classification and siting criteria for waste management units and establishes three classes of disposal units (e.g. landfills): Class I for hazardous waste, Class II for designated waste, and Class III for nonhazardous solid waste.

Article 9 requires anyone proposing to discharge wastes to land where water quality can be affected to submit a report of waste discharge to the regional board which then adopts waste discharge requirements.

#### LOCAL

- San Francisco City and County Ordinance 253-86. The Maher ordinance requires that
  hazardous waste analyses be performed on soils to obtain building permits under
  specified conditions. Projects disturbing more than 50 cubic yards of soil and which are
  located bayward of the historic high tide, or in any other areas designated by the Director
  of Public Health, fall under the requirements of the ordinance.
- San Francisco Health Code Article 22 Hazardous Waste Generator Inspections. This
  ordinance authorizes the Director of Public Health to enforce the provisions of the
  California Hazardous Waste Control Act and conduct inspections of hazardous waste
  generator sites in the City and County of San Francisco.

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# APPENDIX: MEMORANDUM OF UNDERSTANDING

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#### MEMORANDUM OF UNDERSTANDING

#### Between

The Bayview Hunters Point Clean Environment Coalition

and

San Francisco Energy Company

This Memorandum of Understanding (the 'MOU') is made and entered into as of August 24, 1995, by and between The Bayview Hunters Point Clean Environment Coalition (the 'Coalition'), an open membership organization concerned about the general welfare of the Bayview Hunters Point Community (the 'Community'), and San Francisco Energy Company ('SF Energy'), a limited partnership between AES Pacific, a wholly owned subsidiary of the AES Corporation and Pacific Gas Power, Inc. a wholly owned subsidiary of Southern Natural Gas, Inc. (SONAT).

# RECITALS

This MOU is made with respect to the following considerations:

- 5F Energy plans to construct and operate a 240 MW cogeneration plant (the "Project") in the Bayview Hunters Point area of San Francisco.
- During the construction and operation of this plant, SF Energy will spend approximately \$270 million locally on goods, services and wages.
- Approximately 220 new jobs will be created by this project 195 new construction jobs and 25 new permanent jobs. Additional new jobs may be created as a result of local procurement of goods and services.
- SF Energy is committed to taking the necessary and appropriate steps to
  ensure that the construction and operation of this plant contributes to the
  socioeconomic well-being of the Community.
- According to the 1990 census, the ethnic composition of the Community is 62% African-American, 22% Asian, 11% Caucasian, and 4% other.
- The unemployment rate in the Community is 14.1%. The unemployment rate for African-American community residents is even higher at 17.7%. The unemployment rate for African-Americans between the ages of 16 and 21 is at least 3 times the overall rate for African-Americans.

- The high unemployment rate for African Americans combined with other adverse socioeconomic conditions has led to a steady decline in the Community's African-American population and the general quality of life.
- The Coalition is an open organization of community residents and representatives of broad-based community organizations and institutions who are dedicated to improving the Community by working to make sure that SF Energy and other businesses make and deliver on commitments to the Community.
- A 1970 Memorandum of Agreement (the "MOA") between the San Francisco
  Building and Construction Trades Council, the Bayview Hunters Point Model
  Neighborhood and the Associated General Contractors was effective in producing
  construction employment opportunities for community residents. The MOA is a
  model that can be used by the SF Energy in connection with this project.

# **AGREEMENT**

THEREFORE, SF Energy and the Coalition (the "Parties") agree as follows:

# I. Purpose of MOU

The purpose of this MOU is to set forth the goals, and strategies for achieving those goals, that the Parties have agreed to in their mutual effort to ensure that the plant will be built and operated safely; will maximize employment of Community residents, particularly African American residents, during construction and operation; and will maximize business opportunities for community based businesses, particularly African American owned businesses, during construction and operation of the plant.

# II. Health and Safety

The Parties agree that first and foremost the cogeneration plant must be safe and contribute to reducing the level of emissions currently being generated in the Community by existing Pacific Gas & Electric Company (PC&E) power plants.

The Parties agree that the California Energy Commission's (the "CEC") Final Decision on SF Energy's Application for Certification will contain the best information and analyses on which to base a decision on the cogeneration plant's safety and the extent to which it will reduce emissions in the Community. The CEC's Final Decision is the functional equivalent of an Environmental Impact Report ("EIR").

The following initial steps will be taken to address the Community's health and safety concerns:

A. Establish a Community Health and Safety Advisory Committee (the "CHSAC"), comprised of people who live or work in the Community that have an interest and/or expertise in the area of health and safety.

The CHSAC will meet regularly to review the plant's health and safety program. As required, the CHSAC will advise SF Energy on strategies and plans to improve the health and safety program.

B. Develop and implement a community education program to inform Community residents about emergency procedures for the plant and other existing emergency procedures. In addition, SF Energy is committed to participating in safety and emergency programs such as the voluntary Neighborhood Emergency Response Team (NERT).

# III. Employment

## A. Construction Work Force Goal

- 1. The Parties will make good faith efforts to assure that no less than 50% of the workforce in each craft are Community residents and that 50% of all apprentice positions in each craft are filled by Community residents.
- 2. The following steps will be taken to achieve these goals:
  - a. Pursuant to the Agreement for Construction Employment Goals, the unions will make good faith efforts to adhere to the following principles:
    - (1) Community residents who are available and fully-qualified at the journey level shall be eligible for employment on this project.
    - (2) Community residents who are not fully qualified at the journey level, but who have prior construction work experience, shall be eligible for indenture in the applicable local union.
    - (3) Community residents who have no prior construction work experience but who meet the requirements for apprenticeship in the craft of their choice shall be eligible for indenture in the apprentice program of such craft and shall be eligible for employment on this project.
  - b. Community residents who are unable to meet the requirements for employment or apprenticeship in the craft of their choice will be encouraged to participate in existing job readiness programs.
  - c. Prior to commencement of construction each contractor and subcontractor will be required to attend pre-construction meetings with Young Community Developers, Inc. and Aboriginal Blackman Unlimited (the "Community Outreach Organizations") and union representatives to discuss their workforce requirements and strategies for achieving the goals set forth above.

- d. With the assistance of Community Outreach Organizations, SF Energy will inventory the Community labor force to determine the availability of Community residents with the requisite qualifications to fill available construction jobs.
- e. SF Energy will hold regularly scheduled meetings with the contractors, the unions, and the Community Outreach Organizations to review progress towards achieving the 50% construction workforce goal. When appropriate, additional measures to achieve the goals will be identified. Such measures might include, suspension of the contract or subcontract of the contractor or subcontractor that is out of compliance and/or withholding progress payments.
- f. These construction employment goals will be made a requirement in each construction contract and subcontract resulting from this project.

#### B. Permanent Workforce

- 1. The goal is that at least 50% of the permanent workforce will be Community residents. To achieve this goal the following steps will be taken:
  - a. With the assistance of the Community Outreach Organizations, SF Energy will identify qualified Community residents that are available and available Community residents that are interested in becoming qualified.
  - b. Working with the assistance of Community Outreach Organizations, SF Energy will hold Community meetings to explain permanent employment opportunities that will result from the project and to assist Community residents in completing employment applications.
  - c. SF Energy will develop general job descriptions for positions that will be filled through outside hire. The descriptions will be reviewed with Community Outreach Organizations before being finalized. At least 30 days before general recruitment commences, Community Outreach Organizations will be provided copies of the position descriptions and requested to recruit, screen and refer applicants from the Community to SF Energy.
  - d. Qualified Community residents will be given first consideration for available positions.
  - e. SF Energy will develop a public information program to keep the Community informed about the project and to educate residents about the industry and career opportunities therein.

#### IV. Contracting and Procurement

Excluding the cost of major equipment, development expenses and financing during construction, this project is estimated to cost approximately \$123,000,000.00 to build.

The Parties have agreed upon goals to provide the maximum practical opportunity for Community based minority business enterprises (MBEs) and women owned business enterprises (WBEs) to participate in providing subcontracting, consulting, and supplier services for this project.

These goals, which represent percentages of the total dollar value of local expenditures in each category, are as follows:

	MBE *	WBE *
Construction	15% 15%	5%
Professional Services Suppliers	15% 15%	5% 5%

Community based businesses will be given first consideration in awarding of

(\* These goals are as established by the California Public Utilities Commission in its General Order 156.)

Based upon its contract with PG&E and its lease with the Port:of San Francisco, SF Energy is obligated to comply with procedures administered by the California Public Utilities Commission (CPUC) and the San Francisco Human Rights Commission (SFHRC) to increase contracts with MBEs, WBEs and disabled veterans enterprises (DVEs). SF Energy and the Coalition will work closely to implement the following action steps which they believe are consistent with CPUC and SFHRC requirements:

- A. SF Energy will develop lists of potential opportunities for MBEs and WBEs to participate in this project. Special efforts will be made to identify opportunities for small Community based businesses. That list will be reviewed with the Coalition and organizations representing MBEs and WBEs. Where appropriate, additions or deletions may be made to the lists.
- B. With the assistance of the Coalition, SF Energy will identify Community based contractors, professional service providers and suppliers who could provide goods and services needed to complete and operate this project. If warranted Community meetings may be held with the interested firms to discuss the project and procedures they should follow to receive consideration.
- C. On a case-by-case basis SF Energy, SF Energy's Contractor and subcontractors will assist MBEs and WBEs in identifying and securing assistance in the areas of accounting, estimating, finance, insurance, bonding or to develop the skills applicable to small business development.

D. Prior to executing a construction contract, SF Energy will require the Contractor to provide evidence of commitments to MBEs and WBEs at levels that satisfy the goals set forth herein.

# V. Community Empowerment

In an effort to empower Community organizations, institutions and programs. SF Energy will provide the Community with urgently needed support and serve as model for other businesses that wish to become a part of the Community. In its efforts to empower the Community, SF Energy will work with and through existing organizations, institutions and programs where possible. The following specific steps will be taken:

A. SF Energy will establish a Community Empowerment Fund (the "CEF") to support programs, projects and activities that focus on empowering Community residents, stimulate economic development in the Community and help improve the quality of life for Community residents of all ages and circumstances. During construction and 30 years of operation SF Energy will contribute approximately \$13,000,000.00 to the CEF (approximately 10% of the \$123,000,000.00 cost to build the plant).

SF Energy's initial annual contribution to the CEF will be approximately \$250,000. Subsequent annual contributions will be adjusted for inflation. These funds will be contributed to the CEF in quarterly installments in January, April, July and October of each year.

- B. Other actions SF Energy will take to empower the Community may include:
  - 1. Establishing a Community Empowerment Fund Advisory Board (CEFAB), to assist SF Energy in formulating priorities (e.g. a comprehensive community based employment and training center or a scholarship fund), and procedures to be used in distributing CEF funds.
  - Encouraging all of its employees to maintain active involvement in Community or Community related programs, projects, activities, organizations and institutions.
  - 3. Giving first consideration to those otherwise qualified contractors, consultants, vendors, and suppliers who have a history of active involvement in the Community or who make a commitment to become involved in the Community over and beyond what may be necessary to provide goods or services to SF Energy.
  - 4. Establishing an internship program for students from the Community. Placements through this program may be at the San Francisco plant, AES and SONAT Headquarters or AES and SONAT facilities throughout the world.
  - 5. Working with schools in the Community on energy related projects that contribute to the educational process and that are beneficial to Community residents.

#### VI. MONITORING

SF Energy and the Coalition will meet at least quarterly, but more frequently, if necessary, to review and discuss the implementation of the terms of this MOU. When necessary, new and/or additional strategies will be developed to enhance the effectiveness of their efforts.

#### VII. TERM OF AGREEMENT

This MOU shall continue in full force and effect until such time as the goals contained herein have been achieved or the Parties determine that it is no longer necessary to achieve its Intended purposes.

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SF Energy Company	The Bayview Hunters Point Clean Environment Coalition
My MA	Region Police
Mark Woodruff, General Manager ZH AUGUST 1995	
<b>-</b>	Raren Huggins, Dist. 7 Democratic Club  Espanola Jackson, Bist. 7 Democratic Club
	Sam Murray, New Bayview Committee  Alex Pitcher, NAACP
	James Richards, Aboriginal Blackman Unlimited  Carpi Laum, Young Community Developers  Leon Thibeaux, Resident

Essie Webb, Resident

<sup>\*</sup> Bayview, All Hollow, La Salle, Shoreview Tenants Association

# VII. TERM OF AGREEMENT (continued)

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# Organizational Contacts & Endorsements

New Bayview Committee . 20 Sunt months and months

San Francisco NAACP \* Bayview Baptist Ministers Fellowship \*

John Yum Tenants Association \*

Young Community Developers \*

Bayview Hunters Point Multipurpose Senior Center \* (Carticulation)

Southeast Community Facility Commission

Southeast Community College Advisory Committee

3rd Street Merchants Association \*\*

District Seven Democratic Club \* C

Aboriginal Blackman Unlimited \* (Consumbination)

New Hunters Point Homeowners Association

Westbrook Resident Management Corporation

Hunters View Resident Management Corporation

**Hunters Point Shipyard Citizens Advisory Committee** 

Southeast Community Development Corporation \*\*

Morgan Heights Homeowners Association (contacted to request meeting, but no reception)

Mariner's Village Homeowners Association contacted to request meeting, but no reception)

Malcolm X School

Twenty First Century Academy Complian to him him to him to

Washington-Carver School

Charles Drew School

Bayview Hunters Point Sierra Club Members

Hunters Point Ecumenical Council

Bayview Hunters Point Clean Environment Coalition \*

Socio-Economic Environmental Justice Advocates (SEEJA)

Friends of Islais Creek

- Endorsement
- Endorsement by President/Chair only

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# APPENDIX: POS

Proof of Service List

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# STATE OF CALIFORNIA

# State Energy Resources Conservation and Development Commission

In the Matter of:	Docket No.: 94-AFC-1
Application for Certification of the SAN FRANCISCO ENERGY COMPANY'S COGENERATION Project (SFEC)	) PROOF OF SERVICE (rev. 1/25/96)
PROOF OF	SERVICE
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deposited copies of the attached	
in the United States mail in <u>SACRAMENTO, CA</u> addressed to the following:	with first class postage thereon fully prepaid and
APPLICANT	INTERVENORS
<ul> <li>Mr. Robert G. Morgan, Director</li> <li>of Site Certification</li> <li>San Francisco Energy Co.</li> <li>44 Montgomery Street, Ste. 3450</li> <li>San Francisco, CA 94104</li> </ul>	Willie F. Carter, President Hunter's View Resident Management Council, Inc. 216 West Point Road San Francisco, CA 94124
Mr. Emilio E. Varanini, III Marron, Reid & Sheehy 810 K Street, Ste. 2100 Sacramento, CA 95814-3521	Kerisimasi Faatuai, Vice President Hunter's View Resident Management Council, Inc. 229 West Point Road San Francisco, CA 94124
INTERESTED AGENCIES  Mr. Robert S. Maerz Deputy City Attorney City & County of San Francisco Port of San Francisco 3100 Ferry Building	Claude Wilson/Linda Richardson c/o Morgan Heights Homeowners Association P.O. Box 880961 San Francisco, CA 94188-0961

San Francisco, CA 94111

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Dr. Eddie C. Welbon
Bayview Hunter's Point Homeowners
& Residential Community
Development Council, Inc.
P.O. Box 24347
San Francisco, CA 94124

Theresa Coleman, President Andre Williams, Member Council of Resident Management Corporations (CORMC) of San Francisco, Inc., One Harbor Rd. San Francisco, CA 94124

David Chatfield Jane Gire Kisha Animashoun Greenpeace, 3rd Floor 568 Howard Street San Francisco, CA 94105

Joel Ventresca San Franciscans for Public Power 1278 44th Avenue San Francisco, CA 94122

San Francisco Tomorrow Jennifer Clary 54 Mint Street, #310 San Francisco, CA 94103-1815

S.F. Lesbian, Gay, Bisexual Voter's Project Margaret Verges 3041 Pine Street San Francisco, CA 94115

Leon Thibeaux 82 Bayview Street San Francisco, CA 94124

Mr. Samuel Murray 30 Van Ness Avenue, 5th Floor San Francisco, CA 94105

Karen Huggins
District 7 Democratic Club
4909 Third Street
San Francisco, CA 94124

Mr. Alex Pitcher 61 Pomona Street San Francisco, CA 94124

Mr. Olin Webb SEJA (the "Association") 186 Maddux Avenue San Francisco, CA 94124

Rev. John Phillips Bayview Baptist Ministers Fellowship 1636 Armstrong Street San Francisco, CA 94124

James Richards Aboriginal Blackman Unlimited 5048 3rd Street San Francisco, CA 94124

Sy-Allen Browning Young Community Developers, Inc. 1715 Yosemite Avenue San Francisco, CA 94124 Marie J. Franklin, President Shoreview Tenant's Association 95 Beatrice Lane, Suite 03 San Francisco, CA 94124

CALIFORNIA ENERGY COMMISSION (Docket Unit - 12 copies required)

Docket Unit, MS-4 1516 Ninth Street Sacramento, CA 95814

I declare that under penalty of perjury that the foregoing is true and correct.

(Signature)

\* \* \* \*

#### INTERNAL DISTRIBUTION LIST

Parties do not mail to the following individuals. The Energy Commission Docket Unit will internally distribute documents filed in this case to the following:

Sally Rakow Vice Chair and Presiding Committee Member 1516 Ninth Street, MS-32 Sacramento, CA 95814

Charles R. Imbrecht Chairman and Committee Member 1516 Ninth Street, MS-31 Sacramento, CA 95814

Garret Shean Hearing Officer 1516 Ninth Street, MS-9 Sacramento, CA 95814

Shawn Pittard Project Manager 1516 Ninth Street, MS-15 Sacramento, CA 95814 Ed Heidig Public Advisor 1516 Ninth Street, MS-12 Sacramento, CA 95814

Jeff Ogata
Office of General Counsel
1516 Ninth Street, MS-14
Sacramento, CA 95814

REPORTER (Commission Notices only)

Capitol Electronic Reporting 10100 Fair Oaks Blvd., #G Fair Oaks, CA 95628

# APPENDIX: RESPONSES TO COMMENTS/MOTIONS

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#### INTRODUCTION

to

# RESPONSES TO COMMENTS ON THE PRESIDING MEMBER'S PROPOSED DECISION

This APPENDIX - RESPONSES TO COMMENTS/MOTIONS provides the Commission's responses to the written and oral comments of the parties, interested agencies and public regarding significant environmental and other issues. In addition, the Commission addresses motions filed by the parties.

The Commission conducted a public hearing in San Francisco on November 16, 1995, to receive oral comments from the public. In addition a 30-day written comment period on the Presiding Member's Proposed Decision concluded on November 27, 1995.

During the comment period on the Presiding Member's Proposed Decision, the Commission received numerous letters and other documents from the public. To the extent possible, the Commission has consolidated responses to these comments by subject matter and addressed public correspondence in responses to party comments.

The Commission also received voluminous comments concerning the air quality and public health portions of the Decision. In the interest of brevity, responses attempt to address issues only once, even if the issue was raised by multiple comments. In addition, emphasis is on responding to comments critical of the Decision; comments supporting the Decision and its conclusions are not set forth. In addition, comments that primarily are directed to other parties' comments are not addressed.

#### PROJECT DESCRIPTION

#### APPLICANT:

Applicant notes that the project description includes the sale of steam to San Francisco (SF) Thermal, the purchase of natural gas from Pacific Gas and Electric Company (PG&E), and the use of a filtration and reverse osmosis system to treat secondary waste water for use at the powerplant.

Response:

The PROJECT DESCRIPTION has been revised to reflect the current project configuration, including the sale of steam to SF Thermal, natural gas supply from PG&E, and the use of a filtration and reverse osmosis system to treat secondary waste water.

#### INTERVENORS:

The Intervenors contend that for the California Environmental Quality Act (CEQA) analysis the project description was too vague due to uncertainties about the facility design (gas source, water source & steam host), site control, and enforceability of the power purchase contract.

Response:

The project description from the inception of the process has included several options proposed by the Applicant. These options did not render the project description vague. Rather, the availability of such options has allowed the Commission to weigh the environmental and community effects of different configurations of the project. The revised Project Description identifies the gas source as PG&E, the water supply as the City of San Francisco, and the steam host as SF Thermal.

Intervenors claim that describing the project as the result of the California Public Utilities Commission's (CPUC) competitive process to displace PG&E's aging and inefficient units is inaccurate since the Identified Deferable Resource (IDR) is for an increment of the total capacity of Hunters Point Units 2 and 3.

Response:

For the purpose of describing the project in the context of ER 92 and the CPUC's BRPU process, the discussion of the competitive bid process is appropriate. Since additional discussion in the Decision addresses the status of Hunters Point Units 2 and 3 following construction of the project, the Decision taken as a whole fully and accurately describes the effect of the project on PG&E's Hunters Point Units 2 and 3.

## **DEMAND**

#### APPLICANT:

The Applicant suggests deleting the "Generic" Need Discussion.

Response: The "Generic" Need discussion is retained since it was an issue in the

hearings.

#### INTERVENORS:

Intervenors assert that the Federal Energy Regulatory Commission (FERC) found the Biennial Resource Plan Update (BRPU) to be illegal, thus invalidating the project's selection as the "result" of the BRPU.

Response: The Revised PMPD reflects the fact that FERC has taken no action which

would bar the Commission's continuing analysis of demand conformity.

Intervenors note that the CPUC has stayed the Hunters Point IDR.

Response: The CPUC stay is not a substantive invalidation of the San Francisco

Energy Company (SFEC)/PG&E Final Standard Offer No. 4 (FSO4)

contract. The stay is a procedural matter which will need to be addressed

at some time in the future.

Intervenors claim *Electricity Report 92's* (ER 92) contract requirement is not amended by Public Resources Code (PRC) section 25523.5.

Response: As a subsequent legislative enactment, PRC section 25523.5 supersedes ER

92's requirement for a contract to show conformity with the demand

forecast.

Intervenors contend no valid FSO4 contract exists since SFEC does not have site control over the Port site.

Response: SFEC has shown sufficient control over the Port site. The Commission

has added a requirement to its general ORDERS that the Decision not be

filed with the Docket Unit until action by the City and County of San

Francisco on the Port site lease.

#### PG&E:

PG&E suggests that any discussion beyond compliance with PRC section 25523.5 is not required or appropriate.

Response: The PMPD discussion appropriately reflects the multiple issues and

alternative theories concerning conformance with the demand forecast

presented at the hearings.

PG&E asserts there is no CEC jurisdiction to make findings regarding the validity of the FSO4 contract.

Response: The CEC has made a determination regarding the FSO4 contract only to

the extent necessary to determine conformity with the demand forecast.

PG&E claims SFEC's offering of multiple sites in the FSO4 invalidates the contract.

Response: Multiple sites are not expressly prohibited by the FSO4; site adjustments

may be made with the consent of PG&E; in this instance, multiple sites have served the interests of CEQA in disclosing an alternative which

avoids potential significant impacts at the initial primary site.

PG&E also contends FERC found the BRPU to be illegal.

Response: See response to Intervenors' comment.

PG&E also notes the CPUC has stayed the Hunters Point IDR.

Response: See response to Intervenors' comment.

#### SOCIOECONOMICS

#### APPLICANT:

Applicant suggests the Bayview Hunters Point Clean Environment Coalition MOU should not be in Port lease, but rather incorporated as a Condition of Certification.

Response: The MOU is addressed in revisions to this section. Conditions of

Certification SOCIO-7 and ALT SOCIO-7 provide flexibility to SFEC and the Port in terms of whether and how the MOU is to be recognized in the

lease.

Applicant claims the Facility will not adversely affect residential property values.

Response: The comment is consistent with the Decision.

#### STAFF:

Staff asks that the discussion of the disbursement period of the community benefit fund should be clarified.

Response: As addressed in revisions, the Applicant will contribute \$13,000,000 over

the life of the project, which is expected to be 30 years.

Staff suggests the net present value of the community benefit fund should be determined.

Response: The total amount of the community benefit fund is the important element

of the discussion, not the net present value.

Staff asks that the payment of \$17,500 for school impact fees be included as a Condition of Certification.

Response: Revised Condition of Certification SOCIO-9 includes the school impact

fee.

Staff suggests eliminating the redundancy of SOCIO - 5 with ENVIRONMENTAL JUSTICE section.

Response: The condition now appears only in the SOCIOECONOMICS section.

Staff urges adding language to show qualification for the apprenticeship program.

Response: The suggested language has been added.

## **INTERVENORS:**

Intervenors argue that BVHP residents' spending out of the community is not merely anecdotal but is reflected in the Draft South Bayshore Plan.

Response: Revisions of the text take this comment into account and note the purpose

of the discussion was to demonstrate the effect of the project on a broader

economy than the local community.

## **VISUAL**

#### STAFF:

Staff asks for the deletion of Table 1 as a summary of Staff's evaluation of visual impacts since the Table only shows impact susceptibility from each key observation point.

Response: Comment accepted.

Staff asks Condition VIS - 3 be modified to include enhancement of wildlife habitat.

Response: Comment accepted.

Staff requests modification of the PMPD's characterization of Staff's testimony regarding the Innes Avenue site to state that the impacts could not be mitigated to insignificance. (p. 167)

Response: Comment accepted.

Staff clarifies the characterization in the PSA of a height limit exceedence is properly characterized as a height limit exemption in the FSA for the Port site. The Innes Avenue site is not addressed in the FSA.

Response: Comment accepted.

# TRAFFIC AND TRANSPORTATION

#### INTERVENORS:

Intervenors claim installation of the steam pipeline will cause disruption of the Cal Train commuter line.

Response: The steam pipeline will be installed under the train tracks using a sidebore

technique so that commuter service is not disrupted.

Intervenors assert installation of the steam pipeline will disrupt traffic, businesses and residences for 12 blocks on Seventh Street.

Response: The Commission has had experience and success with its in-street

construction mitigation measures in other projects. The Conditions of Certification provided in this Decision will mitigate in-street construction

impacts, including those on Seventh Street, to an acceptable level.

Intervenors claim installation of the steam pipeline could interfere with construction on Highway 280.

Response: The mitigation measures identified in the prior response will mitigate in-

street construction impacts for any contemporaneous construction on

Highway 280, if it occurs.

Intervenors assert the Decision does not address the potential for cumulative impacts from construction of the Mojave gas pipeline.

Response: SFEC is obtaining natural gas from PG&E, interconnecting near the

Hunters Point powerplant. As stated in the pipeline EIR/EIS, construction of the Mojave gas pipeline into Hunters Point was to potentially serve the SFEC project. However, Mojave is not the designated gas supplier. Thus, there will be no pipeline construction, contemporaneously or otherwise, to the SFEC project. The Commission notes that the pipeline

EIR/EIS shows all in-street construction to be south of the SFEC

powerplant.

# **NOISE**

#### APPLICANT:

Applicant suggests deletion of Table 6 and related text since minimum nighttime noise levels are otherwise addressed.

Response:

Comment accepted; nighttime noise is addressed in Conditions NOISE-6 and NOISE-9.

STAFF:

Staff asks that Condition NOISE - 2 be changed from 7 to 30 days.

Response: Comment accepted.

# **ODOR**

# APPLICANT:

The Applicant points out that this is the first Commission odor analysis, which resulted from public comment.

Response: Comment is noted and confirmed.

## STAFF:

Staff suggests replacing "modelling" with "analysis" on page 153.

Response: Comment accepted.

# **ENVIRONMENTAL JUSTICE**

#### STAFF:

Staff suggests the discussion should include reference to Commission's extensive monitoring and compliance program.

Response: Discussion has been revised with the reference included.

#### **INTERVENORS:**

The Intervenors claim their environmental justice issues have been reinterpreted by the Decision in a grouped discussion which is misleading.

Response: Revisions have been made to the ENVIRONMENTAL JUSTICE section

which include placing technical topics in their respective subject matter sections. Otherwise, the Decision discusses the issues raised by the parties

during the hearings.

Intervenors claim there is no support in the record for the Decision's discussion of the possible repowering of PG&E Hunters Point Units 2 and 3 if the SFEC project is not built.

Response: The discussion this comment refers to does not appear in the revised

Decision.

Intervenors argue that, by using the MOU designating the Clean Environment Coalition, the Decision has improperly designated who will represent the Bayview Hunters Point Community.

Response: The Commission believes that the Coalition is an appropriate means to

represent the community in matters relating to compliance and as a community-based organization to deliberate the disbursement of the funds in the community benefits package so long as membership is open. The Port Commission will oversee the implementation of the Community

Benefits Package as specified in the Draft Lease Section 37.

Intervenors claim the Decision inappropriately concludes that the SFEC project is not the prototype for the type of noxious facilities found in the environmental justice literature.

Response:

By any objective comparison which takes into account air emissions, discharged substances, land use impacts, and risks to public health and safety, state-of-the art gas-fired combustion turbine cogeneration technology does not fit the prototype of the noxious facilities which spawned the environmental justice movement.

Intervenors argue the Decision does not adequately incorporate questions of the disproportionate distribution of harmful impacts on the basis of race into subject areas outside the environmental justice discussion.

Response:

The analysis of each subject area considered existing conditions in the community surrounding the proposed project and determined that the project will not directly or cumulatively cause any significant adverse impacts. These sections therefore did not need to address a question of whether any community would unfairly experience a disproportionate share of significant adverse impacts resulting from this project.

Intervenors claim that approval of a project with potentially racially discriminatory impacts raises questions under Title VI of the Civil Rights Act of 1964.

Response:

This comment restates an issue previously raised during the evidentiary phase of this case. Based on the record, the Commission has determined that this project will not create any significant adverse impacts and has not identified any potential violation of Title VI of the Civil Rights Act of 1964.

Intervenors argue that while the Commission's review process is open to public participation that fact alone does not assure an environmentally just decision.

Response:

This comment is accepted and is consistent with the discussion in the Decision.

Intervenors contend Title VI of the 1964 Civil Rights Act is a LORS applicable to the project analysis.

Response:

The Decision more fully states the Commission's conclusion that Title VI is not a project LORS.

Intervenors note the San Francisco Department of Public Health study has been modified to

state that there may be a link between environmental exposures to substances and some cancers.

Response:

In revisions to the PUBLIC HEALTH section, the Commission acknowledges the changes in the SFDPH study. However, the proposed project does not emit any substance discussed in the SFDPH study which is a potential cause of cancer.

Intervenors claim the use of dry cooling on the Crockett project but not on the SFEC project is an example of environmental racism.

Response:

Dry cooling was employed in Crockett for project-specific reasons that had nothing to do with air quality. The chief reason the Applicant proposed dry cooling was to eliminate once through cooling and thus eliminate the need to use Bay water for cooling and the Bay for discharge. In addition, the dry cooling tower structure was chosen over a wet or wet/dry cooling system because of its size. The later structures require a considerable amount of room, which the Crockett site does not have. The dry cooling system at Crockett was placed over other project structures. An added benefit to Crockett was the fact that the dry cooling system would not cause a steam plume and thus reduced visual impacts of the project. In the present case, other measures and operating conditions imposed on the project prevent any significant problem with a visual steam plume from the project.

#### **ALTERNATIVES**

#### APPLICANT:

The Applicant claims the eleven alternative sites are not feasible.

Response: The Decision determines that ten of the eleven alternate sites is feasible,

although not environmentally superior to the Port site.

The Applicant argues that additional, aggressive conservation is not a feasible alternative.

Response: This comment is consistent with the Decision finding that conservation has

been accounted for in formulation of the demand forecast.

Applicant contends new or upgraded transmission facilities do not address the San Francisco Operating Criterion and are not feasible.

Response: This comment is consistent with the Decision finding that peninsula

transmission does not address "islanding" from the transmission grid.

Applicant claims the examination of alternatives is dependent upon the existence of significant adverse impacts, which this project does not create.

Response: Although this Decision determines that there are no significant adverse

environmental impacts from the project, it nonetheless also makes findings regarding the project alternatives to reflect the Commission's deliberative

process.

Applicant also claims the absence of significant project impacts relieves the requirement of CEQA to make findings concerning the feasibility of alternatives.

Response: See response above.

The Applicant argues the discussion of the distinction between physical and economic need for new facilities does not apply to the special circumstances of the proposed project; therefore the finding that the No Project alternative is feasible for even a short period is inappropriate and should be deleted.

Response:

Prior to PG&E's placing Hunters Point Units 2 and 3 in long term reserve as of 2001, the No Project alternative can meet the SFOC and provide 221 MW. Thereafter, the No Project alternative does not satisfy the SFOC. Retention of this discussion of this discussion is appropriate.

The Applicant states that the evidence does not support finding the No Project alternative is infeasible after 2000, unless PG&E retrofits Hunter Point Units 2 and 3 with necessary pollution control equipment, because such a contingency is an unrealistic possibility.

Response:

See response to comment above.

STAFF:

Staff requests adding "significant" to first paragraph, PMPD page 191.

Response:

Conument accepted.

Staff requests the deletion of the first sentence of first paragraph, PMPD page 194, on the basis that the applicability of CEQA to the ER and BRPU is unsettled.

Response:

The paragraph is revised, although the requested deletion of the first sentence is not among the revisions since the meaning of the sentence is much narrower than Staff's comment suggests. The sentence deals with the scope of the alternatives review, not a question of whether CEQA applies directly to the ER or BRPU.

Staff requests the deletion of the first paragraph under <u>Alternatives Review Under CEQA</u>, regarding the necessity for an alternatives review.

Response:

Comment accepted.

Staff asks the addition of "Staff, as directed by the Committee, reported in its analysis, that ...", PMPD pages 224 and 225, to reflect that this analysis was performed at the direction of the Committee.

Response:

Comment accepted.

Staff requests deletion of the second paragraph, PMPD page 227, regarding CPUC staff views concerning existing (Hunters Point) site redevelopment.

Response: Comment accepted.

Staff recommends amending Finding 8 to clarify language concerning eliminating or avoiding potentially significant impacts.

Response: Comment accepted; Finding 8 now renumbered to Finding 9.

#### INTERVENORS:

Intervenors argue the use of the SFOC is inappropriate because other California metropolitan areas do not require local generation to avoid "islanding."

Response:

San Francisco's situation is unique among metropolitan areas in California. These other areas are served by an interconnected transmission grid from different directions. On the other hand, San Francisco is served only by transmission extending up the peninsula. Loss of the peninsula transmission completely isolates San Francisco. Local generation is partial insurance against San Francisco's complete electric isolation. Loss of one avenue of transmission in other California metropolitan areas would not lead to such complete isolation; thus the situations are not comparable.

Intervenors contend an upgraded transmission line on the peninsula is a feasible alternative.

Response:

As stated in the Decision, an upgraded transmission system on the peninsula will not substitute for the reliability of local generation in the event San Francisco is "islanded" from the remainder of the transmission grid.

Intervenors argue alternative transbay transmission crossings, whether by bridge, BART tube, or underwater, should be discussed in the Decision even though dismissed as infeasible during workshops.

Response:

Alternative transbay transmission was discussed and declared infeasible at Staff-sponsored workshops during the proceeding. This alternative is infeasible because (1) it is totally incompatible with PG&E's existing Bay Area transmission system in terms of generation location and power flows, (2) it would create significant environmental and community impacts for overhead or underground transmission rights-of-way to interconnect with an existing or new substation in the East Bay or the North Bay, (3) it

would be cost prohibitive for equipment and easements, and (4) it would not provide the needed reliability to prevent "islanding" San Francisco in the event of a transmission grid disruption.

Intervenors contend smaller, dispersed units (such as in the SMUD area) are environmentally superior alternatives to the project.

#### Response:

The SMUD area projects (Procter & Gamble (171 MW), Campbell Soup (158 MW), Carson Ice (95 MW) and SEPCO (148 MW) are a similar size as the SFEC project, both in megawatts and site requirements.

The feasibility of distributed generation revolves around down-scaling and economics. As discussed in the Decision, scaling down a cogeneration project can reduce the site size to a minimum of 2 - 3 acres. However, a typical, smaller-scale cogeneration facility will retain a turbine building, a flue gas exhaust stack and a cooling tower. From a community "appearance" perspective, such a facility would look very much like its larger counterpart. Fuel use, combustion emissions, water use, and chemical storage would be less than the larger counterpart; however, the sum of all effects of multiple smaller units, having an aggregate generating capacity of a larger single unit, is greater than the single unit itself.

To eliminate some of the appearance features of the cogeneration facility and reduce the site size, the project could employ a simple cycle combustion turbine eliminating the cooling tower and water for cooling. However, one of two electric generators is eliminated also, meaning that approximately half the electricity is generated from the same amount of fuel. Eliminating the stack means that emissions would be much nearer ground level instead of being dispersed higher in the air. Consequently, the combustion turbine must be smaller to reduce emissions which also reduces its power generating capability. Thus, more smaller units are required to generate the equivalent electricity. The multiple start-ups and operation of multiple independent units do not reduce emissions in comparison to the single unit.

Additionally, as Staff testified, the cost of electricity from these smaller units is substantially higher than that generated from larger units. Economies of scale are affected as the generating capacity of the facility is reduced. Such higher costs result in economic infeasibility in this context, reflecting a practical infeasibility that no developer would construct a facility which generates electricity at a price which is uncompetitive.

Lastly, to provide the generation necessary to satisfy the reliability aspects

of the SFOC would require virtually all of these smaller units be operating in coordination with each other and those of the utility.

Intervenors argue the CEQA feasibility of the project itself is questionable since it is dependent on the approval of the Port lease and the validity of the SFEC/PG&E contract.

## Response:

The Commission does not consider the SFEC/PG&E FSO4 contract matter to be a feasibility issue within CEQA. In any event, the Decision finds that SFEC has made a sufficient showing of the existence of a valid contract to satisfy ER 92. Moreover, construction may not begin until the contract issue is resolved.

# AIR QUALITY'

#### STAFF:

Staff comments (p. 6)<sup>2</sup> that the Decision incorrectly states that other projects considered in the cumulative impacts analysis were operating in 1993.

Response: Noted. The discussion no longer appears in the Decision.

Staff contends (p. 9) that any reference to the Decision's consistency with the Commission's decision in the Crockett power plant proposal should be deleted, as the circumstances differ.

Response: The discussion does not appear in the redrafted Decision.

Staff criticizes (pp. 9-10) the Decision's use of the isopleth map analysis to conclude that impacts are less than significant.

Response: The discussion is deleted from the redrafted Decision.

Staff comments (pp. 10-11) that, since NOx offset requirements are actually being met with POC offsets, it is unclear that the offset package will directly result in PM10 precursor reduction.

Response: The Decision acknowledges that POCs are not all NOx precursors, making

it difficult, from the record, to know whether PM10 emissions are more

than compensated for by offsets.

Staff comments (pp. 11-12) that the Decision should require resodding of the playgrounds as a Condition of Certification.

Response: The redrafted Decision does so.

<sup>&</sup>lt;sup>1</sup> The Bay Area Air Quality Management District and San Francisco Energy Company's comments were directed largely to rebuttal of Staff and Intervenor comments. They raise no new environmental, air quality, or public health issues, and are not addressed here.

<sup>&</sup>lt;sup>2</sup> Unless otherwise indicated, page citations are to the commenter's document commenting on the Presiding Members Proposed Decision (PMPD or Decision).

Staff comments (p. 12) that the Decision errs in stating that, apart from resodding, there are no other known measures to reduce pollution from the project; this ignores the evidence on dry cooling and other considered mitigation.

Response: Noted. The statement in question does not appear in the redrafted

Decision.

Staff contends (pp. 12-14) that the Decision's conclusion that, if the project must be built, Hunters Point Units 2 and 3 will be repowered, is unsupported by the evidence.

Response: Noted. The language in question does not appear in the redrafted

Decision.

Staff comments (pp. 14-15) that proposed District rule changes will make modeled displacement benefits less certain.

Response: BAAQMD responded to this point in its December 6, 1995, letter, stating

that the above comment fails to reflect that the proposed rule change will allow no net increase in emissions from facilities under BAAOMD

jurisdiction, and should actually serve to further reduce PM10 precursor

(NOx) emissions.

Staff comments (pp. 15-16) that the Decision's basis for concluding that the project has no significant impact is unclear.

Response: The Decision has been redrafted to make the basis more clear. The basis,

simply expressed, is that offsets and displacement of higher polluting power plants will result in a regional ozone and PM10 reduction, and that the exceedingly minor local PM10 impact of emissions is more than subsumed by the resodding of local playgrounds now required by the

Decision.

Staff comments (p. 16) that the Decision should indicate the number of people "exposed to the project's maximum impact."

Response: The "maximum impact" referred to are the modeled impacts of dispersion

modeling, using worst-case assumptions about both weather and emissions levels. No party has cited the number of people exposed to these

theoretical impacts, but the redrafted Decision discusses why even the worst-case assumptions in the models do not indicate a significant impact.

The Staff contends (p. 17) that the Decision's statements about the <u>de minimis</u> contributions of stationary sources compared to other PM10 sources may be violative of the <u>Hanford</u> decision's disapproval of "ratio" justifications concerning cumulative impacts.

Response:

No reliance on <u>de minimis</u> contribution was intended. The redrafted Decision concludes that the project does not present a significant impact because it results, based on the evidence of record, in both regional and local reductions in ozone and PM10.

Staff comments (p. 17) that the Decision should not be based on the FDOC finding of compliance with emission standards.

Response:

The Decision clearly is not based on such compliance, although such compliance is obviously a relevant factor. The redrafted Decision clarified this issue.

Staff comments (pp. 19-20) that the Decision should address the appropriate attainment strategy for PM10.

Response:

The Commission is not the agency charged with determining the appropriate attainment strategies for ambient air quality standards. As the redrafted Decision states, regional ambient air problems that are cumulative in nature are best addressed programmatically and by regulation, which is precisely what CARB and BAAQMD are doing.

Staff comments (p. 20) that the Commission should not circumscribe its own authority by implying that its CEQA determination of significance is constrained by federal law.

Response: The redrafted Decision does not include the language Staff objects to, and attempts to clarify that there is no such constraint.

Staff comments (p. 21) that Guideline Section 15064(i) indicates that the Commission must determine significance of impacts pursuant to CEQA, looking beyond mere compliance with emission standards.

Response: The redrafted Decision is in accord.

INTERVENORS:

Intervenors contend (pp. 19-20) that the PMPD errs in that it relies on BAAQMD's PDOC finding that the project will comply with all applicable air quality laws.

Response:

The comment is correct inasmuch as it states that compliance with District regulations does not, in and of itself, mean that the project will result in no significant impact. The redrafted AIR QUALITY section clarifies that this is not the basis for finding no significant PM10 impact.

Intervenors contend (p. 20) that the federal PSD standard of no significant impact for projects that result in less than a 5 ug/m3 impact is not applicable to the project.

Response:

The redrafted Decision explains the nature of the standard and that it is not legally binding for determining the significance of the impact of this project; it is presented in the Decision as a benchmark of comparison for the actual worst-case modeled impacts.

Intervenors contend (pp. 20-21) that the federal 5 ug/m3 standard has no ability to achieve attainment of the state 24-hour average standard, which is sometimes currently exceeded in the project area.

Response:

The statement is correct; the testimony was uncontroverted that even a zero emissions standard for stationary sources would not achieve attainment with the state 24-hour average standard, because stationary sources are not significant contributors. Wood smoke, vehicle (primarily diesel) exhausts, nitrates, and dust are the major contributors to the occasional exceedences. However, as noted in the Decision, the evidence indicates that the project should result in a reduction in regional and local PM10 levels.

Intervenors contend (p. 21) that the Decision ignores the District's failure to control cooling tower emissions.

Response:

As the District's FDOC indicates, cooling tower emissions are exempt from District control; however, cooling tower emissions are calculated for the FDOC and considered in the Decision. They are approximately 10 percent of the emissions from the combustion turbine, and as explained in the Decision, do not constitute a significant impact.

Intervenors contend (p. 22) that the Decision relies on a "ratio analysis" that has been held improper for the purposes of evaluating cumulative impacts, citing <u>Kings County Farm</u> Bureau v. City of Hanford.

Response:

The Decision as redrafted clearly bases its finding of no significant impacts on the persuasive testimony that the project will result in both regional and local reductions regarding PM10 levels, not the disapproved "ratio analysis."

Intervenors contend (p. 22) that the meteorological screening models were not reflective of the actual Bay Area climate, and that the worst case analysis of such models was ignored.

Response:

The models referred to are screening models that are intended to overpredict project impacts and describe a worst-case. They are not intended to be indicative of actual weather. The modeled data was not ignored by the Decision; it is discussed. However, the worst-case modeled impacts, even when based on worst-case emission levels, indicate small impacts. In addition, even these impacts occur with weather that is inconsistent with high PM10 levels.

Intervenors contend that the Decision seems to rely on the fact that maximum local impacts would be in parks distant from human habitation, and the fact that these parks are less utilized in winter, when PM10 exceedences are more likely to occur.

Response:

Noted. The Decision has been redrafted to omit any reliance on the precise locations of where local PM10 exposures were modeled to be highest.

Intervenors contend (p. 23) that small or short term exposures to PM10 are critical to health, and that the medical evidence on this point is uncontroverted.

Response:

In fact, the evidence is much more nuanced and complex. It is summarized and discussed at length in the redrafted sections of AIR QUALITY and PUBLIC HEALTH.

Intervenors contend (p. 23) that even though the predominant winds will blow PM10 away from the local area, such PM10 then becomes part of the regional problem.

Response:

The redrafted version of the AIR QUALITY section emphasizes the regional nature of PM10 problem; the evidence shows that the project will actually lessen this problem by displacing power generation from older, less efficient, more polluting power plants in the Bay Area.

Intervenors contend (pp. 23-24) that the Decision draws the unsupported conclusion that compliance with the state's annual average standard is more important than the occasional violations of the 24-hour average standard.

Response:

Compliance with the state's annual average standard is significant in that it indicates that PM10 is not a chronic health problem in San Francisco. Although it does not in any way "excuse" the occasional exceedences of the 24-hour average standard, such exceedences are relatively infrequent, and result largely from residential wood burning during atypical stagnant weather conditions. Moreover, as the evidence indicates, the magnitude and frequency of such exceedences appears to be declining.

Intervenors contend (pp. 24-25) that the Decision (in PUBLIC HEALTH) incorrectly failed to distinguish between TSP and PM10 for the cities it compared to San Francisco, thereby making the compared cities appear to be relatively worse than they actually are.

Response:

The PUBLIC HEALTH discussion has been corrected to respond to this comment. However, the fundamental point, that most of the cities cited in the studies presented by Intervenors suffer from significantly higher annual average PM10 levels than San Francisco, is supported by those studies.

Intervenors contend (pp. 25-27) that the Decision incorrectly assumes that ozone emissions are less than significant because the District is "attainment" for the federal ozone standard, and because all ozone precursor emissions are fully offset.

Response:

Like PM10, ozone is a regional problem, and BAAQMD is addressing it programmatically. One aspect of this program is the requirement that all new emitters be fully "offset", i.e., that the project must purchase another emitter's current emission rights (or purchase them from the District "bank") to more than subsume the effect of project emissions. The project does this, providing NOx offsets at a ratio of 1.15 to 1.0, as required by the District. In addition, the evidence is uncontroverted that the project will displace a substantial amount of emissions of ozone precursors from other power plants in the District, thereby directly helping reduce the ozone problem.

Intervenors point out (pp. 25-26) that ozone levels exceeded the federal standard in the past summer in Livermore and another District monitoring station in the South Bay area, suggesting that the District's program for abating smog is not working.

Response:

The exceedence is noted in the Decision. This does not, however, mean that the District is not "attainment" for the federal standard, nor does it mean that the project will worsen ambient ozone levels. All evidence indicates that it will reduce ozone levels.

Intervenors contend (pp. 27-28) that the Staff and SFEC production cost computer model evidence indicating that the project will "displace" more emissions from other power plants than it contributes is "speculative," and that the models cannot predict 24-hour air quality violations, predict how power plants may behave in a "deregulated climate," or predict how the District may change its regulations.

Response:

Production cost modeling is a useful predictor of how power plants will be "dispatched" throughout PG&E's system. Regardless of the extent to which the power industry is deregulated (an issue itself requiring speculation), the cheaper, more efficient, cleaner power plants predictably will displace the more expensive power of the dirtier, older plants. The "displacement" that results from the project is thus foreseeable, and the evidence--from both Staff and SFEC--is uncontroverted. Staff and SFEC used somewhat different assumptions about the future operation of the PG&E system, but both analyses show significant future displacement of both ozone and PM10 precursors from older plants that should result in air quality improvements in the District. Obviously, Intervenors are correct that the models cannot predict 24-hour violations; that is not their purpose, and such violations are driven by meteorology in any case. Likewise, the models cannot speculate on future District regulations, but there is no evidence in the record that future District regulations will be less stringent regarding ozone/PM10 precursor emissions than they are today. It should be noted that the potential environmental impacts of the proposal for electric industry restructuring are the subject of a separate CEOA review which will be performed by the CPUC.

Intervenors assert (p. 80) that the District incorrectly determined that the project complies with all applicable laws and standards, as the District did not evaluate the project's contribution to PM10 violations.

Response:

The District rules apply to emissions; the project clearly complies with these rules. The PM10 emissions of the project are low enough that no offsets or dispersion modeling is required. Both Staff and SFEC evaluated project PM10 cumulative impacts, and this is addressed at length in the Decision.

Intervenors assert (p. 81) that the District FDOC has only recently been presented, and has not been the subject of a workshop.

Response: The District FDOC was published November 1, 1995. Prior to that, a substantially similar draft DOC was the subject of workshops.

Intervenors contend (p. 81) that reference to PSD requirements (Decision, p. 240) is inappropriate.

Response: The reference is informational only, is taken from the FDOC, and indicates the power plant emission levels.

Intervenors assert (p. 81) that the Decision is incorrect in its statement that Staff confirmed that the project complies with all applicable laws and standards for air quality; in fact "staff determined that the project violated the State's nuisance law due to its PM10 emissions . . .

Response: Staff's FSA and testimony agrees with the District and SFEC that the project complies with all applicable laws and standards. Moreover, the Staff FSA does <u>not</u> conclude that the project violates nuisance laws--it concludes precisely the opposite. (FSA, p. 141.)

Intervenors contend (pp. 81-82) that the Decision misstates Dr. Fairley's testimony, particularly regarding PM10 as the causation of mortality.

Response: Intervenors are correct that Dr. Fairley testified that the evidence suggests a causal relationship between increased levels of PM10 and increased mortality, but the PMPD correctly indicates that he stated that causation is not established. The language that Intervenors object to no longer appears in the AIR QUALITY section.

Intervenors contend (pp. 82-83) that Dr. Gilliss' testimony is misstated, and that she testified that dust PM10 was not equivalent to combustion PM10; Dr. Fairley also testified that combustion PM10 has a greater health impact because of the amount of small particles less than 2.5 microns.

Response: Dr. Gilliss testified that, based on her review of the literature of people who are experts, there is "considerable uncertainty as to the equivalence of the different sources of PM10," including the equivalence of dust and combustion PM10, (7/21/95 RT 11-13.) This testimony, and that of Dr.

Fairley, are accurately summarized with transcript citations in the redrafted AIR QUALITY section of the Decision, and are also discussed under PUBLIC HEALTH. It should be noted that neither of these witnesses professed expertise on the nature of PM10, nor were either of the witnesses aware of the composition of natural gas combustion PM10 and how it compares to other combustion PM10.

Intervenors contend (p. 83) that under federal regulations the District should be reclassified as "nonattainment" for ozone given recent violations of the ozone standard in the South Bay Area; offsets programs are not contemporaneous and have not protected air quality.

#### Response:

The EPA in 1995 reclassified the District as in "attainment" for ozone. Occasional violations of the state and federal standards in the South Bay occurred in each of the years prior to this reclassification (FSA, AIR QUALITY TABLE 3, p. 79), yet these relatively few violations did not prevent the reclassification. This is because, as Staff states in its testimony, these few violations "do not indicate a persistent ozone problem in the South Bay." (FSA, p. 79.) In any case, the basis for finding no significant impact from the project regarding ozone is not the classification of the District, but the uncontroverted evidence that the effect of project is to reduce regional ozone by providing emission offsets and by "displacing" significantly more ozone precursors (from higher emitting older facilities) than the project emits.

Intervenors comment (p. 84) that the state can apply both state and federal standards, analyze health impacts, and require mitigation as appropriate.

Response: Noted.

Intervenors cite (p. 84) Staff's comment that the District did not consider whether the facility would contribute to a violation of the state 24-hour standard.

#### Response:

In response to the cited comment, the District provided a letter stating as follows: "The testimony shows, and in your [Decision] you properly found, that the impacts of PM10 emissions of the proposed SFEC facility would be insignificant and would not be responsible for any exacerbations of current exceedences of the State PM10 standard (which occur during the winter and which are primarily caused by residential wood smoke, motor vehicle emissions, and unique meteorological conditions)."

(BAAQMD, 12/6/95 letter, p. 2 [emphasis added].) In addition, the District states as follows:

In fact, the District does look at PM10 emissions from proposed sources such as the SFEC project, and under federal law, we must conduct a Prevention of Significant Deterioration ("PSD") review of any proposed project if its emissions will exceed 100 tons per year. The District did review PM10 emissions of the proposed SFEC facility, but these emissions were below the threshold of significance under the federal PSD program and accordingly did not require modeling. (Ibid.)

Intervenors comment (p. 85) that "there are significant differences in PM10 concentrations," noting that some violations did not occur in winter; they further contend that this indicates PM10 levels can be impacted by a local source.

#### Response:

Intervenors point is, as the comment states, reflected in the Decision. It in no way conflicts with the draft Decision, in either its original or revised forms. The evidence indicates that the project will not result in a significant impact locally regarding PM10, and that it will result in both regional and local PM10 reductions.

Intervenors claim (p. 85) that "the Commission's refusal to look at worst case conditions is in error and violates CEQA," and that the Decision appears to ignore the fumigation modeling performed by Staff and the applicant.

#### Response:

Almost all of the Staff and SFEC analysis focused on worst case conditions for air quality, both for weather and emissions. As Staff pointed out in its comments on the Decision, these worst case conditions that dominated discussion of impacts are not expected to occur. What is expected to occur is that the project will emit about one-third of the modeled emissions, and these emissions will normally disperse downwind away from Hunters Point. Although nothing in CEQA requires the assumption of such theoretical worst cases, the fumigation modeling referred to in the comment is used because the ambient air standards are health-based, and it is important to know whether a project can even conceivably have any health impact. Even assuming this worst case, both for emissions and meteorology, the maximum project impacts are well below the federal/District PSD screening significance level, and are the product of modeled weather not consistent with exceedences of the 24-hour average standard for PM10. The evidence indicates that any local PM10 impact will be vanishingly small, and is more than subsumed by the dust abatement resodding required by the Decision.

Intervenors (p. 87) "contest the inescapable conclusion from the evidence is that PG&E would repower or retrofit Hunters Point 2 and 3."

Response:

Noted. The testimony indicates that PG&E is not committed to any particular option for trying to meet the SFOC if the project is not built. The discussion in question does not appear in the redrafted AIR QUALITY section, nor is it a basis of the Commission's Decision.

Intervenors contend (p. 87) that ROG is an ozone precursor that is not addressed in the Decision.

Response:

ROG (reactive organic gases), called POCs (precursor organic compounds) in the Decision, are ozone and PM10 precursors. SFEC supplied POC offsets from the District "bank." The effect of the project according to SFEC's modeling is to slightly decrease regional POCs (roughly 10 tons/year); Staff's modeling showed that it increases regional POC emissions by an average of 25 tons/year. The Staff modeling, which understated project benefits, also indicates that the project will result in an average reduction of 109 tons/year of NOx-also an ozone and PM10 precursor. The District also required the project to provide 42.6 tons/year of POC offsets. All of this information is discussed in the redrafted Decision.

Intervenors contend (p. 88) that the Decision failed to distinguish between the composition of PM10 in different portions of the Bay Area, and that ammonium nitrate is the largest PM10 contributor in San Francisco.

Response:

The predominance of wood smoke or ammonium nitrate in different parts of the Bay Area is a distinction without a difference. The important point is that stationary combustion sources such as the project are insignificant contributors, such that they appear in none of the charts mentioned by intervenors. Both Rubenstein and Dr. Fairley testified that wood smoke and meteorological conditions are principal contributors to PM10 exceedences. Ammonium nitrate is also a principal contributor.

Intervenor comments (p. 89) that the Decision improperly suggests that 5 ug/m3 was depicted as the maximum project emission because that is the federal PSD screening level number to determine impact significance; the number was instead the product of worst-case modeling analysis.

Response: Noted. The discussion in question no longer appears in the AIR

QUALITY section of the Decision. Maximum project emission impacts are discussed in the Decision in detail.

Intervenors contend (p. 90) that "the modeling is conservative" in that it does not include "secondary PM10 impacts."

Response:

Secondary PM10 impacts (the result of precursor transformation to PM10) were considered in the ELFIN production cost model analyses to determine to what extent the project would displace PM10 precursors. Both Staff and SFEC analyses indicated a substantial reduction in secondary PM10 as a result of the project—a regional benefit to air quality.

Intervenors comment (p. 90) that, even if PM10 from the project is normally dispersed over the Bay, the regional impact of PM10 emissions must be considered.

Response: Both the original Decision and its redrafted version emphasize that PM10 is a regional problem, as well as how the project will affect that problem.

Intervenors comment (pp. 91-92) that the Decision incorrectly states that the articles regarding PM10 they submitted to the record did not indicate that PM10 is the cause of the health problems and mortality studied.

Response:

The papers in question are statistical analyses not intended to show cause and effect, but which use association to make a hypothesis. The authors indicate their belief that PM10 does cause higher mortality, based on the association between higher PM10 levels and higher mortality. The discussion in the Decision criticized by Intervenors has been deleted, but not because it erred in saying that the articles do not posit causation.

Intervenors contend that Dr. Fairley's testimony was unfairly depicted (p.92-93).

Response: The redrafted section summarizes Dr. Fairley's testimony with transcript references.

Intervenors claim (p. 93) the Decision misstated the law regarding cumulative impacts, citing CEQA Guideline Section 15130.

Response: The Guideline Section definition has been incorporated into the redrafted section.

Intervenors state (p. 93) that the District "does not consider cumulative [impact] PM10 violations."

Response: The redrafted Decision discusses the District's and the California Air

Resource Board's programmatic approach to reducing PM10.

Intervenors contend (p. 93) that offsets for PM10 precursors are irrelevant because they are not contemporaneous with project emissions.

Response: The offsets are relevant because they result in regional reduction of PM10,

a problem that can only be effectively addressed with a regional approach. Such mitigation is entirely appropriate to mitigate cumulative impacts

under CEQA.

Intervenors contend (p. 94) that there is no basis in the record to contend that the project's offsets and its displacement of older, higher polluting plants "exceed direct PM10 emissions."

Response: The redrafted Decision discusses at length the evidence concerning

displacement, offsets, and direct PM10.

Intervenors contend (p. 94) that the Decision incorrectly posits that it is consistent with the Commission's 1993 decision in a different siting case for a power plant in Crockett.

Response: The basis for this Decision is consistent with the Crockett decision,

although Intervenors are correct that the facts and circumstances are somewhat different. In any case, there is no reference to the Crockett

decision in the redrafted Decision.

Intervenors criticize (pp. 95-96) the Decision's discussion of playground resodding benefits, including its conclusion that it compensates for any increase in local PM10 from the project.

Response: The persuasive evidence, discussed in the redrafted Decision, is that

playground resodding more than subsumes any local PM10 impact from

the project.

Intervenors comment (p. 96) that the Decision fails to provide "any cost/benefit analysis specifying the costs avoided and the health benefits . . . , nor did it compare this cost/benefit

analysis to Crockett," further contending that if such analysis was required for Crockett it should be performed in this case.

Response:

No "cost/benefit" analysis was required or performed for the Crockett decision; as here, the Commission concluded that there was no significant air quality impact after application of the required mitigation, including offsets.

Intervenors comment (p. 97) that 44 tons/year of mitigation are required for the project.

Response:

The Decision concludes that no mitigation is required beyond that required in the Conditions of Certification, in that (with said conditions) the project does not result in a significant impact. Resodding, though not required as a mitigation measure, was volunteered by the applicant and required as a community benefit. Resodding was calculated to provide a more than 50 tons/year benefit.

Intervenors contend (p. 97) that Finding Nos. 1 and 2 are in error because "at the time of the Decision" the District was modifying the FDOC to address start-up conditions.

Response: The FDOC was released in early November and the Finding is correct.

Intervenors contend (p. 97) that Finding No. 3 is incorrect because "no offsets have been obtained for PM10."

Response: The finding in question has nothing to do with PM10 offsets, which were not required by the District and therefore are irrelevant to the finding.

Intervenors contend (p. 97) that Findings 6, 7, and 8 are in error because the Decision did not require "dry cooling" as a mitigation measure.

Response: Dry cooling was not required as mitigation because the Decision concludes there is no significant air quality impact. Dry cooling has no conceivable relevance to Finding Nos. 7 and 8.

Intervenors contend (p. 98) that Finding No. 9 is in error because the EPA level of significance "does not apply in an unclassified area."

Response: The District uses this EPA level of significance for PSD review. PSD

review applies to unclassifiable areas (BAAQMD is "unclassifiable" for PM10), but the project emissions are too low to trigger PSD review, so PSD analysis was not required. The redrafted Decision refers to the PSD level of significance for comparison purposes.

Intervenors contend (p. 98) that Finding No. 11 is incorrect because "wood smoke does not dominate violations," and because it "violates the <u>Hanford</u> holding."

Response: The finding in question is supported by uncontroverted evidence as to the

source and cause of PM10 exceedences. Reference to the Hanford decision

is misplaced.

Intervenors contend (p. 98) that Finding Nos. 11, 12, 13, 14, 15, 16, 17, and 18 and are in error for various reasons.

Response: These findings do not appear in the redrafted Decision.

Intervenors state (p. 99) that the conditions of certification do not require PM10 mitigation, "nor do they eliminate toxic emissions which may contribute to cumulative impacts in the community do to other sources of carcinogens and the vulnerability of the community."

Response: No mitigation is required because the Decision finds that there is no

significant impact. The risk analysis performed for the project indicated that such emissions were so slight as to result in no significant increase in

health risks to the community.

Intervenors contend (p. 99) that Condition AQ-62 should restrict emissions on any day when the District predicts a violation of the state standard, rather than the less stringent federal standard.

Response: The condition in question is required by BAAQMD in its FDOC.

#### ADDITIONAL PUBLIC COMMENT

Additional public comments are addressed only to the extent that they raise new issues not already addressed in the responses above.

One comment stated that the air quality impact could be attenuated by employing "a condenser to receive exhaust particles." resulting in "zero particle discharge."

Response: The project is required to employ state-of-the-art pollution control

technology. When the commenter was contacted regarding his comment, he clarified that the technology he advocated was not yet in existence.

# PUBLIC HEALTH

#### STAFF:

Staff comments (p. 22) that the statement in the Decision that compliance with health based emission standards "necessarily" means that there are no significant health impacts is incorrect.

Response: Noted. The statement has been revised in the Decision.

Staff comments (p. 23) on distinctions in the AIR QUALITY section of the Decision between combustion PM10 and cooling tower PM10.

Response: The discussion in question does not appear in the redrafted Decision.

Staff comments (pp. 24-26) that the discussion regarding attainment of the annual average PM10 standard suggests that violations of the state 24-hour average standard are somehow less important.

Response:

The discussion does not contend that 24-hour average violations are unimportant, but merely to indicate that generally speaking, high PM10 levels are not a severe health problem in the air district. Obviously, it is very desirable that there also be no violation of the short-term standard.

Staff commented (Final Comments, p. 5) that the highest potential impacts could occur during the winter season, the usual season for the occasional exceedences of the state PM10 24-hour average standard.

Response:

The evidence also indicated that the occasional exceedences occurred during stagnant weather conditions that were inconsistent with modeled conditions showing highest project PM10 impacts.

Staff commented (Final Comments, p. 5-7) that the resodding benefits are genuine and are not apparently overestimated, concluding: "The resodding effort, although not quantifiably precise, does offer <u>real</u> emission reduction, for the <u>same</u> pollutant (PM10) on a time frame that is <u>contemporaneous</u> with the proposed new project, <u>within</u> the affected community as demonstrated by air quality modeling." (Emphasis in original.)

Response: The resodding benefit is recognized in the Decision and now subject to the Conditions of Certification.

#### INTERVENORS:

Intervenors comment (p. 100) that there is evidence that PM10 levels below 50 ug/m3 cause adverse health impacts.

Response: Noted. This point was testified to by Dr. Fairley and is noted in the

Decision.

Intervenors comment (p. 100) that the Decision errs in saying NSR review (and compliance with District regulations) means necessarily that there are no significant health impacts.

Response: Noted. The language in question is rephrased to state that compliance

with the health-based emissions standards presumptively means that there

are no direct health impacts from project emissions.

Intervenors contend (pp. 100-101) that the Decision misstates Dr. Fairley's testimony in it's summary on p. 314.

Response: The transcript indicates that the testimony summary is accurate.

Intervenors contend (p. 102) that the Decision's discussion of the articles Intervenors submitted on PM10 research failed to differentiate between PM10 and TSP, and is thus inaccurate.

Response: Noted. The Decision has been revised to differentiate PM10 levels. As the

comment itself notes, most of the cities in the studies had annual average

PM10 levels above San Francisco's.

Intervenors comment (p. 102) that the Decision's quote of one of the PM10 article authors as to the importance of annual/chronic PM10 levels is hearsay, therefore unreliable, and not sufficient as the basis for any of the conclusions of the Decision.

Response: The quotation cited is by Dr. Pope, and it comes from the articles

submitted by Intervenors concerning recent research on the health effects

of PM10. It is indeed hearsay, as are Intervenors' articles in their

entirety. Under Commission regulations, none of this hearsay evidence is,

by itself, capable of sustaining a Commission finding.

Intervenors comment (p. 103) that they believe PM10 levels will be going up, rather than

down, because the years cited in the Decision were not typical weather years.

Response:

The District, Staff, and SFEC each provided testimony that the trend is to lower PM10 levels, and cited measures such as CARB's new clean fuels requirements which are expected to further reduce levels. There is no evidence to the contrary.

Intervenors comment (p. 103) that the project's PM10 emissions will worsen levels on non-exceedence days.

Response:

The persuasive evidence is that the effect of the project should be to reduce PM10 regionally by offsets and the displacement of generation from higher polluting Bay Area plants, and reduce PM10 locally through resodding.

Intervenors comment (p. 103) that the Decision violates the <u>Hanford</u> decision by describing the project's impacts as so minuscule as to be insignificant.

Response:

Although the project's impact is minuscule, as noted by the Decision, that is not the fundamental basis of the Decision. The basis is that the persuasive evidence indicates that PM10 levels in the Bay Area will be reduced by the project, and that the minor local PM10 contribution is more than subsumed by dust suppression measures that are part of the project's community benefits package.

Intervenors state (p. 103) that the Commission has authority under CEQA to require mitigation measures even if it has no power to implement them; the District could then be obligated.

Response:

Obviously the Commission has such authority, but only where it finds there is a significant impact on the environment. Here there is no such impact.

Intervenors claim (p. 104) that the resodding air quality benefit is not explained and that the quantification of benefits is speculative.

Response:

There was much testimony on the effect of resodding; it is summarized in the AIR QUALITY section of the Decision. The Staff and SFEC testified that the 50 ton benefit was a reasonable estimate; EPA approved the method used to calculate this benefit. There was no evidence that the parks would be resodded absent the project. Dr. Fairley's criticism of the resodding calculations was specifically rebutted.

Intervenors claim (p. 104) that Finding Nos. 1, 3, 4, and 5 are incorrect because both ozone and PM10 can be harmful at levels lower than those imposed by state and federal standards.

Response:

The evidence is uncontroverted that the ambient air quality standards are health-based and intended to protect even sensitive members of the population. Intervenors' argument that the standards do not in fact always protect public health are addressed in the Decision.

Intervenors contend (p. 104) that Finding 8 is incorrect because the project will cause exceedences of the 24-hour standard that would not otherwise occur.

Response:

The evidence is to the contrary. The project's contributions are so small (98 percent of the time less than 0.2 ug/m3 even assuming three times the level of expected emissions), and exceedences are so much the product of weather conditions, that the project will not be a factor in any exceedences of the 24-hour average standard.

Intervenors comment (p. 105) that Finding No. 9 should require mitigation, presumably to prevent exceedences of the state 24-hour standard.

Response:

The Decision states that the project as conditioned does not result in a significant impact to public health; no mitigation is therefore required.

# HAZARDOUS MATERIALS HANDLING

STAFF:

Staff suggests correcting the discussion of orders of magnitude. (p. 340)

Response: Comment accepted.

Staff requests omitting "level" as expression of pH. (p. 384)

Response: Comment accepted.

# SOIL AND WATER RESOURCES/SITE REMEDIATION

#### **INTERVENORS:**

Intervenors argue that before the Commission can act on the Application, the DTSC must provide an ecological risk assessment and Action Plan to address site contamination.

## Response:

As of this time, the DTSC has issued a preliminary Action Plan for the site, conducted a public hearing on the Plan, and concluded a 30-day written comment period. Intervenors have submitted written comments which will be responded to by DTSC in any possible action on the Plan. Even though the Plan is preliminary, the Commission has incorporated from it a discussion of remedial measures intended for the site, and anticipates that a final Plan will be available for consideration before final action on the Application for Certification.

# **FACILITY DESIGN**

## STAFF:

Staff requests six miscellaneous modifications of discussion. (pp. 420, 421, 422, 423, 426, 427, and condition GEN - 7)

Response: Cor

Comments accepted.

#### INTERVENORS:

Intervenors urge use of an importance factor of 1.50, instead of 1.25, for structures to increase earthquake resistance.

Response:

Commission review of the applicable LORS determined that a dynamic lateral force analysis is specified by the CBC. A revised Condition of Certification addressing the lateral force analysis for structures calls for the use of the more conservative value between a dynamic analysis or a static analysis using an importance factor of 1.25. According to the structure categories in the CBC, use of an importance factor of 1.25 adds conservatism not required by the Code.

Intervenors claim that, due to local factors, the default factor for vertical acceleration not be used.

Response:

The CBC acknowledges a default factor of two thirds for vertical acceleration in the conduct of a dynamic analysis. However, based upon site conditions, the default factor may be changed. The process established by Condition STRUC - 6 in accordance with the CBC will provide an appropriate value for the vertical acceleration analysis.

Intervenors claim it is unknown if pilings will reach bedrock.

Response: The process for the design of pilings provided in the Conditions of

Certification assures that pilings will reach competent material.

# TRANSMISSION LINE SAFETY AND NUISANCE

# STAFF:

Staff requests deletion of the sentence suggesting that magnetic field reduction measures also reduce electric fields. (p. 466)

Response: The sentence has been modified to avoid an unintended meaning.

The Staff states the statement that Staff calculated potential magnetic fields in light of Florida's limit is incorrect; Staff used its own and PG&E's criteria.

Response: Comment accepted.

#### **ACTION ON PENDING MOTIONS**

#### STAFF:

Staff filed its motion to for the Commission to take administrative notice of the BAAQMD's pending amendment of Regulation 9, Rule 11 concerning Powerplant emissions.

Response:

Since Staff's motion, the BAAQMD has enacted the amendment of

Regulation 9, Rule 11. The Commission takes administrative notice of the

amendment.

#### INTERVENORS:

Intervenors filed their motion requesting that the Commission take notice of (1) a summary of BAAQMD violations of the State and federal ozone standards, (2) the San Francisco Department of Public Health press release and Study concerning the incidence of cancer in the Bayview Hunters Point, and (3) the EIR/EIS for the Mojave Pipeline Project.

Response:

Since none of the three documents or their authors have been subject to cross-examination, the Commission will take the summary of BAAQMD ozone violations, the DPH Study, and the Mojave Pipeline EIR/EIS into the record as hearsay evidence.

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# APPENDIX: OPEN LETTER

TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION

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The Committee-will recommend the adoption and incorporation of the following in the Decision:

# OPEN LETTER TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION AND PACIFIC GAS & ELECTRIC COMPANY

During the Energy Commission's (Commission) proceeding on the proposed San Francisco Energy Company's Cogeneration Project (SFEC), there has been significant public discussion about the impacts from, and future of, Pacific Gas & Electric Company's (PG&E) Hunters Point Units 2 and 3. This Commission recognizes that it has no direct jurisdiction over the Hunters Point powerplant. Rather, it is the California Public Utilities Commission (CPUC) which granted the Certificate of Public Convenience and Necessity to PG&E for the Hunters Point powerplant and continues to exercise regulatory authority over the cost of operations of the facility and remaining capital cost (less than \$2 million).

The Commission, by this letter, informs the CPUC and PG&E of the record we have developed and our recommendation stemming from it. We believe it would be appropriate as the SFEC becomes operational that Hunters Point Units 2 and 3 be retired from service. This recommendation does not preclude PG&E from considering other market-based options for the site or facility. We make this recommendation for the following reasons:

# Implementation of the BIENNIAL RESOURCE PLAN UPDATE

The concepts of economic need and competition found in the 1990 and 1992 Electricity Reports (ER 90 and ER 92) and implemented by the CPUC's Biennial Resource Plan Update (BRPU) led to an auction whereby a utility's Identified Deferable Resources (IDR) were established, which in turn led to the utility's setting of a benchmark price against which private developers would bid to determine who should construct the next generation of least-cost new powerplants. That process placed PG&E's proposed repowering of Hunters Point Units 2 and

3 in competition with other generation options which chose to bid. SFEC produced the winning bid against PG&E as well as other private developers.

SFEC, as the winner, should replace Hunters Point Units 2 and 3. We believe that such replacement was the regulatory intent behind the concept of competitive economic need.

Therefore, to be consistent with the underlying concept of the BRPU, SFEC should be constructed and operated and PG&E's Hunters Point Unit 2 and 3 should be permanently retired.

# Operation of Units 2 and 3 Burdens Ratepayers

The essence of the BRPU auction is that SFEC will produce electricity at a lower cost than repowered Hunters Point Units 2 and 3. Therefore, there would be a direct, avoidable added cost to ratepayers by using electricity generated from repowered Units 2 and 3 instead of from the SFEC. There would also be added, indirect cost to ratepayers from having to pay for the overhead and maintenance cost of keeping Units 2 and 3 operational or in cold standby. The direct and indirect ratepayer costs can be avoided by retiring Hunters Point Units 2 and 3.

### Environmental Justice

The Bayview Hunters Point community correctly points out that there are already two powerplants in southeast San Francisco, namely PG&E's Hunters Point and Potrero facilities. If SFEC is merely added to the existing powerplants, the community complains that it is being disproportionately burdened with industry and pollution. This Commission has determined that with the mitigation required in our Conditions of Certification, the SFEC will comply with all laws and will not create a significant impact under the California Environmental Quality Act. We have done so with the knowledge that PG&E's expressed plan is to place Units 2 and 3 in long-term reserve in 2001 to avoid expensive air pollution control retrofits. We believe that placing Units 2 and 3 into non-operational status, as assured through-a the CPUC's regulatory process, it will add necessary certainty to this express intention.

In making this recommendation, we are mindful that whatever electricity industry future may come to pass, circumstances may arise wherein PG&E or a successor in interest may wish to utilize all or a portion of Units 2 and 3 or their site. While the recommendation cannot legally preclude that, we believe that the Bayview Hunters Point community should be afforded an open public process to address and debate the future use of Units 2 and 3 should that ever arise.

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