

ALTERNATIVES

Stanley Yeh and John Kessler

SUMMARY OF CONCLUSIONS

Staff has explored a range of reasonable alternatives to the project, or to the location of the project, examining if there are any alternatives which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen the significant cancer risk that could result from the project as concluded from staff's preliminary analysis. The determination that the Humboldt Bay Repowering Project (HBRP) could cause a significant cancer risk is discussed in the Public Health section of this Preliminary Staff Assessment (PSA). Staff is unable to make any conclusions at this time as to whether there are any environmentally superior alternatives to the proposed HBRP, and intends to further explore alternatives that could avoid or substantially lessen the project's cancer risk prior to preparing the Final Staff Assessment.

INTRODUCTION

The purpose of staff's alternatives analysis is to consider whether there are alternatives that could feasibly attain most of the basic objectives of the proposed HBRP and avoid or substantially lessen one or more of the significant effects of the proposed project. If the California Energy Commission (Energy Commission) determines that the proposed project will result in significant adverse impacts and identifies an alternative that meets these criteria, it cannot license the proposed project unless it finds that the benefits of the proposed project outweigh the impacts and that the alternative is infeasible. However, the Energy Commission does not have the authority to approve alternative configurations, require alternative technology designs, or require the applicant to move the proposed project to another location without first conducting an in-depth review of the environmental consequences of the alternative. If the applicant moves its proposed project to one of the alternative sites, Energy Commission staff will analyze any new proposed project site to the same level of detail as the original proposed project site.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Pacific Gas & Electric (PG&E) proposes to replace its existing Humboldt Bay Power Plant (HBPP) Units 1 and 2 and its Mobile Emergency Power Plants (MEPPs). The proposed project falls under the jurisdiction of the California Coastal Commission (Coastal Commission) and thus is subject to both the Energy Commission's and Coastal Commission's laws, ordinances, regulations, and standards (LORS) as specified under the Warren-Alquist Act and the California Coastal Act (Coastal Act). The Energy Commission is the Lead Agency under the California Environmental Quality Act (CEQA).

CEQA

Energy Commission staff is required by agency regulations to examine the "feasibility of available site and facility alternatives to the applicant's proposal which substantially lessen

the significant adverse impacts of the proposal on the environment” (Cal. Code Regs., tit. 20, §1765).

The “Guidelines for Implementation of the California Environmental Quality Act,” Title 14, California Code of Regulations Section 15126.6(a), requires an evaluation of the comparative merits of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.”

In addition, the analysis must address the No Project Alternative (Cal. Code Regs., tit. 14, §15126.6[e]). The analysis should identify and compare the impacts of the various alternatives, but analysis of alternatives need not be in as much detail as the analysis of the proposed project.

The range of alternatives is governed by the “rule of reason,” which requires consideration only of those alternatives necessary to permit informed decision making and public participation. The CEQA states that an environmental document does not have to consider an alternative if its effect cannot be reasonably ascertained and if its implementation is remote and speculative (Cal. Code Regs., tit. 14, §15126.6[f][3]). However, if the range of alternatives is defined too narrowly, the analysis may be inadequate (City of Santee v. County of San Diego [4th District, 1989] 214 Cal. App. 3d 1438).

WARREN-ALQUIST ACT

The Warren–Alquist Act provides clarification as to when it may not be reasonable to analyze alternative sites for a project. Alternatives analysis is not required when a natural gas-fired thermal power plant is (1) proposed for development at an existing industrial site, and (2) “the project has a strong relationship to the existing industrial site and therefore it is reasonable not to analyze alternative sites for the project (Public Resources Code 25540.6 [b]).” The HBRP meets these criteria to be considered a repowering project (Public Resources Code 25550.5). The existing HBPP site is zoned industrial and has been used to generate power since the 1950s. The site will be used for storage of spent fuel rods at the Independent Spent Fuel Storage Installation Project for an indefinite period into the future. The HBRP can also be considered to have a strong relationship to the existing site considering it will utilize virtually all the existing infrastructure including transmission, natural gas, water, and sanitary sewer systems. However, in order to avoid potential disputes concerning the applicability of an alternative site analysis and to address applicable sections of the Coastal Act that pertain to an alternatives site evaluation, such an analysis has been included in this section.

CALIFORNIA COASTAL ACT

The Coastal Act provides guidance for siting a thermal electric generating plant within a coastal zone, stating “new or expanded thermal electric generating plants may be constructed in the coastal zone if the proposed coastal site has been determined by the State Energy Resources Conservation and Development Commission (Energy Commission) to have greater relative merit pursuant to the provisions of Section 25516.1 (Public Resources Code, Div. 15), than available alternative sites and related

facilities for an applicant's service area which have been determined to be acceptable ...” (Public Resources Code, Div. 20, §30264).

In addition, the Coastal Act specifies with regard to location, “Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division (Division 20 – California Coastal Act). However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section ... if 1) alternative locations are infeasible or more environmentally damaging; 2) to do otherwise would adversely affect the public welfare; and 3) adverse environmental effects are mitigated to the maximum extent feasible (Public Resources Code, Div. 20, §30260).

With regard to wetlands, the Coastal Act states, “The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: 1) new or expanded port, energy, and coastal-dependent industrial facilities...” (Public Resources Code, Div. 20, §30233).

APPROACH

This alternatives analysis uses the following approach, based on guidance in the CEQA Deskbook (Bass et al. 1999, p. 108):

1. Describe the project objectives;
2. Assess the proposed project's significant environmental effects;
3. Develop screening criteria for feasibility of alternatives;
4. Consider a broad range of alternatives, including the No Project Alternative, and select a reasonable range of alternatives that:
 - a. Meet some or all of the project objectives;
 - b. May be located on alternative sites;
 - c. Substantially avoid or lessen one or more of the potential significant effects of the project; and
 - d. Are feasible based on specific economic, social, legal, or technical considerations.
5. Explain why other alternatives have been rejected from evaluation;
6. Provide meaningful evaluation and analysis of environmental impacts of the reasonable range of alternatives and the No Project Alternative in comparison with environmental effects of the proposed project; and

7. Identify the environmentally superior alternative.

PROJECT OBJECTIVES

Based on analysis of the HBRP Application for Certification (AFC), the Energy Commission staff has determined the proposed project's objectives as:

1. Replacing the existing Humboldt Bay Power Plant Units 1 and 2, which are about 50 years old and nearing the end of their useful lives, with a more efficient generation technology;
2. Locating the proposed project near an existing substation and/or key interconnections to both the existing 60-kilovolt (kV) and 115-kV transmission lines and infrastructure for natural gas, water supply, and wastewater disposal;
3. Providing a reliable source of generation within the Humboldt Load Pocket (greater Humboldt County area), where imported power is normally constrained to supply only about half of the existing 196-MW peak load; and
4. Maintaining capability for rapid-response loading of the proposed project in order to maintain service during transmission interruptions and natural gas curtailments.

SUMMARY DESCRIPTION OF PROPOSED PROJECT

The proposed HBRP site is located at 1000 King Salmon Avenue, approximately 3 miles south of the City of Eureka in an unincorporated area of Humboldt County. It would be located on 5.4 acres within a 143-acre parcel currently occupied by the existing (PG&E) HBPP. The proposed project site is zoned Coastal-Dependent Industrial and is within the jurisdiction of the California Coastal Commission. The Coastal Commission relies upon the policies of Humboldt County's local coastal program general plan and zoning ordinance as guidance for issuing its coastal development permits, as does the Energy Commission for LORS determination.

The HBRP site currently contains industrial land, wetlands, Buhne Slough, and cooling water intake and discharge canals associated with the existing HBPP. The proposed project site is bounded on the north by Humboldt Bay, on the west by the King Salmon community, on the east by the Northwestern Pacific Railroad tracks, and on the south by King Salmon Avenue. East of the railroad property are United States Highway 101 (US-101), some rural parcels, and commercial development. South of King Salmon Avenue are wetland areas and the Humboldt Hill residential development. Southwest of Humboldt Hill is the community of Fields Landing. West of the King Salmon community are Humboldt Bay, a sand spit known as South Spit, and beyond the spit, the Pacific Ocean. Within a 1-mile radius of the proposed project is the South Bay Elementary School (approximately 0.35 miles south) and a senior home, the Sun Bridge Seaview Care Center (approximately 0.5 miles east) (HBRP 2006a, pp. 8.6-1 & 8.6-2).

A shoreline trail maintained by PG&E and the Humboldt Bay Harbor Recreation and Conservation District runs along the shoreline on the perimeter of the HBPP property to the northwest. This portion of the trail extends from the King Salmon community south

to the wetlands along the bay. This trail represents part of a planned coastal trail system that the California Coastal Conservancy envisions would eventually extend from Oregon to Mexico (HBRP 2006a, p. 8.13-6).

In order to construct the HBRP, it would be necessary to remove several structures associated with the existing Humboldt Bay Power Plant including the painting and sandblasting building, two storage sheds, one 115-kV transmission tower, diesel fuel tanks, and related underground piping and infrastructure (HBRP 2006a, p. 2-1). The HBRP would consist of 10 natural gas-fired Wärtsilä 18V50DF 16.3-megawatt (MW) reciprocating engine-generator sets and associated equipment with a combined nominal generating capacity of 163 MW. Auxiliary equipment would include inlet air filters, gas exhaust silencer stacks, air radiator cooling array, generator step-up and auxiliary transformers, and emergency diesel fuel storage tanks.

The HBRP would be connected to PG&E's existing HBPP switchyard via 13.8-kV cables and bus work from the generator circuit breakers to new step-up transformers and then via two 60-kV tie lines and one 115-kV tie line into the switchyard. Natural gas would be supplied to the HBRP via an on-site, 10-inch diameter, high-pressure, natural gas pipeline owned and operated by PG&E. Raw water for industrial processes and site landscape irrigation would be supplied from PG&E's existing ground water well via a direct connection to an on-site, 6-inch-diameter water pipeline. Potable water would be supplied from a new 4- to 6-inch-diameter on-site pipeline running 1,200 feet to a connection with the existing Humboldt Community Services District (HCSD) line that runs along King Salmon Avenue (HBRP 2006a, pp. 2-20 & 7-1). Both process and sanitary wastewater would be conveyed to HBPP's existing 4-inch diameter wastewater pipeline, which already interconnects to the HCSD sewer system.

If approved by the Energy Commission, PG&E proposes to initiate construction of the HBRP in Spring 2008. The proposed project is expected to take about 18 months for construction and startup testing and could begin commercial operation as early as Fall 2009 if there are no delays.

POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS AND AREAS OF IDENTIFIED PUBLIC CONCERN

Staff has concluded in consideration of public health effects that the HBRP as proposed could result in a significant adverse cancer risk associated with the use of diesel as a backup fuel to natural gas. In addition, staff is unable to conclude in consideration of air quality effects if the project would conform to LORS or would cause a significant adverse impact. These conclusions are more fully discussed in the Public Health and Air Quality sections of the Preliminary Staff Assessment (PSA).

IDENTIFICATION AND SCREENING OF ALTERNATIVES

Staff used a two-stage process to select alternatives for analysis. First, staff identified a reasonable range of alternatives. Next, staff screened these alternatives to select those that qualified for detailed evaluation. Staff considered alternatives to the proposed

project that were identified by several sources, including the applicant, previous environmental documents, and Energy Commission staff.

The following sections first describe alternatives suggested by the applicant. Staff found no additional alternative sites that fully met the proposed project objectives. This PSA presents analysis of eight site alternatives and the No Project alternative.

CONSIDERATION OF ALTERNATIVE TECHNOLOGIES

This PSA also describes alternative technologies that were eliminated from detailed consideration and presents an explanation of why these alternatives were not analyzed. The discussion of these alternative technologies that have been eliminated from further consideration can be found in Appendix A to this section and are listed as follows.

- Conventional Boiler and Steam Turbine;
- Kalina Combined-Cycle;
- Advanced Combustion Turbine Engines;
- Conservation and Demand-Side Management;
- Oil/Natural Gas/Coal;
- Nuclear;
- Geothermal;
- Hydroelectric;
- Biomass;
- Solar; and
- Wind.

Staff believes that there are several options that the applicant should further consider to reduce the cancer risk to the public to below the level of significance. They are:

1. Reduce diesel particulate emissions from the stacks with post-combustion controls such as diesel particulate filters or catalysts;
2. Use alternative fuels to the proposed use of diesel fuel such as compressed or liquefied natural gas or liquefied propane stored on-site, or compressed and/or liquefied natural gas or propane stored at another location; or
3. Use alternative technologies such as combustion turbines that could change flue gas parameters to reduce modeled impacts.

These alternatives are further discussed below:

Post-Combustion Emission Controls

- The proposed HBRP as currently proposed would include two post-combustion emission controls. The first consists of selective catalytic reduction (SCR), which reduces oxides of nitrogen (NO_x) emissions by injection of aqueous ammonia into the exhaust gas and then utilizes a catalyzing process to convert NO_x into nitrogen and water. The second proposed control would consist of an oxidation catalyst,

which reduces carbon monoxide (CO) and hydrocarbon emissions. The proposed emission controls have only a limited effect in reducing diesel particulate matter (PM), which is the primary constituent contributing to the project's cancer risk. U.S. EPA has indicated to the applicant that the proposed oxidation catalyst may be considered to provide an additional benefit of reducing diesel particulate matter (PM) by 30% on average (SR 2007h). Therefore, the 30% reduction of diesel PM as a result of the oxidation catalyst has been included by applicant and staff in our respective analyses of air quality and public health impacts.

- Staff believes it would be prudent to explore additional emission controls. For smaller scale engines, a diesel particulate filter (DPF) has been effective at reducing diesel PM. However, for engines of a size such as proposed for HBRP, staff has not yet found any applications of DPF as a Best Available Control Technology. Staff has also observed in literature available from Wartsila's website that they are utilizing an electrostatic precipitator (ESP) for particulate removal in a 150 MW diesel engine power plant, after conducting extensive testing from 1999 to 2001 of the control technology. At this time, staff cannot conclude whether it is feasible or reasonable to apply an additional post-combustion emission control that would reduce diesel PM to a level that would not potentially cause a significant cancer risk. Staff will be exploring the most practical, effective options with the applicant and Wartsila representatives at the PSA/PDOC Workshop.

Alternative Fuels

- One of the criteria for considering proposals under PG&E's Long-term Request for Offers process was that the project needed to provide on-site storage of alternative fuel that could support operation of the HBRP at capacity for a minimum of 4 days. The HBRP would be subject to natural gas curtailments under PG&E's California Public Utilities Commission (CPUC) Gas Tariff Rule 14 that reserves gas supply to PG&E's core customers when supply is limited (CH2MHill 2006, AFC Section 2.7.3). Staff understands that if curtailments or interruptions in natural gas supply were to occur for longer than 4 days, then the project would rely on fuel being transported by truck as long as necessary to maintain HBRP's power production requirements. If natural gas were to be stored on-site, liquefied natural gas (LNG) would be the most space efficient as it only requires about 1/600th of the volume of compressed natural gas. LNG is stored near atmospheric pressure, but is maintained below -83°C to remain in a liquid state. The transformation from gas to liquid requires cooling to about -160 degrees. LNG is transported in specially designed cryogenic road tankers, and is normally stored in either a membrane (prismatic), spherical or self-supporting prismatic type tank. Above-ground tanks are usually double-wall with extremely efficient insulation between the walls.
- If natural gas supplied to HBRP were converted to LNG on site, the project would need an LNG train for gas liquefaction. Use of LNG can result in an increase of energy use due to the energy required to liquefy and transport. However, staff does not expect the incremental increase in energy use would be significant because LNG could serve as primarily the backup fuel supply, and would thus minimize energy required to maintain LNG on site. LNG is not explosive in a liquid state. For an explosion to occur, LNG must first vaporize, mix with air in the proper proportions, and then be ignited.

- Staff has only conceptually examined the existing HBPP site to consider possible locations for storage of natural gas or an alternative fuel should this alternative have merit. In addition to the current fuel storage designated locations for the proposed HBRP, there is also potential that space would be available at either the proposed staging area north of the HBRP footprint or where one of two fuel oil tanks is planned for removal. As for offsite storage of natural gas that may be available for trucking to HBRP during gas curtailments, PG&E has indicated that natural gas would be delivered through an existing 10-inch-diameter pipeline that connects to PG&E's backbone transmission line 145 miles away. Natural gas from PG&E's Tomkins Hill wells would also be used by the project (PG&E 2006a, Section 6.0).
- Considering the natural gas supply limitation is a function of pipeline capacity when demands are greatest, it may be possible to maintain supply of natural gas to HBRP via truck transportation from the Tomkins Hill well field which is located approximately 8 to 10 miles south of the project, immediately east of U.S. Highway 101 near the intersection of Highway 211. At this time, staff cannot conclude whether it is feasible to store natural gas on-site and to truck natural gas from the Tomkins Hill well field during natural gas curtailments or interruptions exceeding 4 days. Furthermore, staff cannot conclude at this time whether developing natural gas or LNG storage to be used in lieu of backup diesel fuel would substantially lessen the significant cancer risk that could result from the project as concluded from staff's preliminary analysis.

Conventional Combined Cycle

This technology integrates combustion turbine-generators (CTGs) and steam turbine-generators (STGs) to achieve higher efficiencies. The hot exhaust from the combustion turbine is sent through a heat recovery steam generator (HRSG) to create steam, which is used to drive a STG. Although this technology is able to achieve high thermal efficiencies during optimal conditions and loads, it does not necessarily maintain as high an efficiency across its capacity range as would the reciprocating engine-generator units. Combined cycle technology can also have significant demands for cooling water associated with steam condensation and inlet air cooling to the combustion turbines, if the project is not configured with dry cooling.

One of the proposals received in PG&E's Long-Term Request for Offer was for a combined-cycle project using three LM6000 CTGs, with two of the CTGs configured with HRSGs, and a 26 MW STG for a total capacity of 158 MW. The combined cycle proposal would be located at the existing HBPP site, and would have similar infrastructure needs as HBRP for some elements including transmission and potable water supply. Natural gas supply would be similar to HBRP utilizing the existing supply pipeline, except for the need to compress the natural gas at the site. Process water supply for the combined cycle alternative, primarily to serve cooling needs, was proposed assuming use of reclaimed wastewater from the Eureka wastewater treatment plant located 2 miles north of HBPP, and requiring a new pipeline that would run along the Pacific Northern railroad tracks. The new reclaimed water pipeline could cause more disturbance to wetlands and coastal lands than would be affected by the HBRP. Assuming the combined cycle plant would use an evaporative (wet) cooling process, the combined cycle alternative would also create a visible plume and generate a higher volume of wastewater for treatment and/or disposal. The combined cycle alternative met

PG&E's criterion for rapid-response loading and for having capability of using liquid fuel as a backup to natural gas.

PG&E's evaluation, as confirmed by the California Public Utilities Commission (CPUC) and its Procurement Review Group made-up of varied stakeholders including ratepayer advocacy groups, concluded that the combined cycle alternative was less desirable than the proposed HBRP using reciprocating engine-generators primarily because of the environmental sensitivities of the reclaimed water supply pipeline (PG&E 2006a – Section 9.2 and CH2MHILL 2007c – DR 58). Staff notes that the environmental issues associated with the reclaimed water supply pipeline could be eliminated if the combined cycle technology were configured with an air-cooled condenser (ACC or dry cooling) assuming: a) there was adequate space for the cooling tower; b) ACC did not cause a significant visual or noise impact; and c) that the combined cycle alternative would still be economically viable. At this time, staff has not evaluated the potential health risks of the combined cycle alternative technology when operating in diesel mode, and therefore cannot conclude that the alternative would avoid or substantially lessen the cancer risks associated with the proposed project. If combined cycled technology were to be used with only natural gas fuel, as may be possible if sufficient natural gas were stored on-site, staff believes the cancer risk could be entirely avoided. The combined cycle alternative would appear to meet the Project Objectives as listed previously in this Alternatives section.

Simple Cycle Combustion Turbine

This technology would utilize combustion turbine-generators (CTGs) likely arranged in a group of three units to meet the capacity needs of the HBRP. Simple cycle technology which ranges in efficiency during optimal conditions from about 37 – 40%, would not achieve as high a thermal efficiency as would the proposed HBRP or as compared to combined cycle which would be on the order of 45% efficient. The simple cycle technology would not maintain as high an efficiency across its capacity range as would the reciprocating engine-generator units. Simple cycle technology can also have demand for cooling water associated with inlet air cooling to the combustion turbines, if the project is not configured with dry cooling.

Two of the proposals received in PG&E's Long-Term Request for Offer were for simple cycle projects using three LM6000 CTGs for a total capacity of 147 MW. The simple cycle proposals would be sited at the existing HBPP site, and would have similar infrastructure needs as HBRP for some elements including transmission and potable water supply. Natural gas supply would be similar to HBRP utilizing the existing supply pipeline, except for the need to compress the natural gas at the site. Process water supply for the simple cycle alternative, primarily to serve inlet air cooling needs, was proposed in both cases assuming use of reclaimed wastewater from the Eureka wastewater treatment plant located 2 miles north of HBPP, and requiring a new pipeline that would run along the Pacific Northern railroad tracks. The new reclaimed water pipeline could cause more disturbance to wetlands and coastal lands than would be affected by the HBRP. Assuming the simple cycle plant would use an evaporative (wet) cooling process, the simple cycle alternative would also create a visible plume and generate a higher volume of wastewater for treatment and/or disposal. The simple cycle

alternative met PG&E's criterion for rapid-response loading and for having capability of using liquid fuel as a backup to natural gas.

PG&E's evaluation, as confirmed by the CPUC and its Procurement Review Group made-up of varied stakeholders including ratepayer advocacy groups, concluded that the simple cycle alternative was less desirable than the proposed HBRP using reciprocating engine-generators primarily because of the environmental sensitivities of the reclaimed water supply pipeline (PG&E 2006a – Section 9.2 and CH2MHILL 2007c – DR 58). Staff notes that the environmental issues associated with the reclaimed water supply pipeline could be eliminated, if like the combined cycle technology, the simple cycle technology were configured with an air-cooled condenser (ACC or dry cooling) assuming: a) there was adequate space for the cooling tower; b) ACC did not cause a visual impact; and c) that the simple cycle alternative would still be economically viable. At this time, staff has not evaluated the potential health risks of the simple cycle alternative technology when operating in diesel mode, and therefore cannot conclude that the alternative would avoid or substantially lessen the cancer risks associated with the proposed project. If simple cycle technology were to be used with only natural gas fuel, as may be possible if sufficient natural gas were stored on-site, staff believes the cancer risk could be entirely avoided. The simple cycle alternative would appear to meet the Project Objectives as listed previously in this Alternatives section.

CONSIDERATION OF ALTERNATIVE SITES

For comparison purposes, and to meet the requirements of CEQA and Title 20, alternative sites were identified that could feasibly attain most of the proposed project's basic objectives.

According to the AFC, the applicant used the criteria listed below to identify the proposed project site and alternatives. Staff believes these criteria are appropriate for a screening level analysis of proposed project site alternatives. The primary criteria include the following factors:

1. Proximity to existing substation – The proposed project site should be located adjacent to or near an existing substation where constructing additional transmission lines would be minimal or would not be necessary;
2. Proximity to natural gas transmission lines – The proposed project site should be located adjacent to or near high-pressure natural gas transmission lines;
3. Environmental viability – The proposed project site should have few or no environmentally sensitive areas and should allow development with minimal environmental impacts;
4. Size – The proposed project should be located on a parcel large enough to accommodate the proposed project site; and
5. Zoning – The proposed project site should be located on a parcel zoned for industrial land use.

Alternatives Figure 1 shows the location of the proposed HBRP and the alternatives evaluated in this PSA.

COMPARATIVE EVALUATION OF ALTERNATIVE SITES

Palco Scotia: This brownfield site was identified through a local source, who indicated that a portion of the lumber operation taking place on this 10-acre site could come up for sale in the near future. It is located west of US-101 and zoned Industrial. However, the distance required to connect to 60- or 115-kv transmission lines is 0.6 mile and 21.2 mile, respectively. The distance to a natural gas pipeline would be 2.3 miles.

Eel River Mills: This 9.7-acre site is zoned industrial and located in a rural area just north of the community of Rio Dell. It is also located immediately north of the Eel River and adjacent to the US-101 to the north. This parcel is an abandoned log landing for the former Eel River Lumber Mill (the adjacent mill is also abandoned). The distance to a 60-kv transmission line is 1.7 miles. A natural gas pipeline is located adjacent to the site.

Carlotta North: This 14.7-acre site is located in a rural location along the north side of State Route 36 (SR-36) and is zoned for Heavy Industry. Most of this site is occupied by Yager Creek and its riparian zone, and there does not appear to be enough remaining acreage for the HBRP. The site is also occupied by a sawdust incinerator, trailer, and miscellaneous equipment. A 60-kv transmission line serves a small substation located across Yager Creek from the site. A natural gas pipeline runs on the south side of SR-36, approximately 0.5 miles away. Rural residential and agricultural uses surround the site.

Palco Carlotta: This site consists of approximately 40 acres and is located directly across SR-36, south of the Carlotta North site and is zoned Industrial. It is a fenced utility yard and appears to be underutilized. It is cleared, portions are graveled, and a small amount of logging equipment and timber handling facilities are present. A 60-kv transmission line is located approximately 0.2 miles from the site, and natural gas is located approximately 0.1 miles from the site. Rural residential and agricultural uses surround the site.

Alton-Hydesville: This 5.3-acre alternative site is zoned Heavy Industry and is located along the south side of SR-36, about midway between the cities of Alton and Hydesville. It consists of an abandoned chipping mill and is surrounded by agricultural uses. A 60-kv transmission line is located approximately 1.5 miles from the site, and natural gas is located adjacent to the site.

Palco Fortuna: This 7.6-acre site is the former log deck of the Palco Fortuna mill, now vacant, and is zoned for Heavy Industry. It is surrounded by mostly urban and suburban land uses of the City of Fortuna (shopping strip-malls) and by US-101 to the west. A 60-kv transmission line and an electrical substation are located approximately 1 mile to the east of the site. A natural gas pipeline runs adjacent to the site along US-101. The City of Fortuna currently has plans to rezone and redevelop this parcel for commercial uses.

Samoa Pacific: This 31.4-acre site is located on the Samoa Peninsula adjacent to the existing Samoa pulp and chip mill. It consists of sparsely vegetated sand dunes and is zoned General Industrial. A 60-kv transmission line serves the site, but connection from the site to natural gas would require construction of a 7.4-mile long pipeline. Open space and industrial uses surround the site.

Samoa Fairhaven: This 43.9-acre site is located on the Samoa Peninsula, adjacent to the existing Fairhaven biomass power plant. It is vacant and zoned as General Industrial. It is served by 60-kv transmission, but connection to natural gas would require construction of a 7.9-mile long pipeline. Open space and industrial uses surround the site.

ANALYSIS – ALTERNATIVE SITES

Although there are appropriately zoned sites that are not located near sensitive receptors or sensitive environmental resources, none of these alternative sites are located as favorably near to electrical transmission and natural gas infrastructure as is the HBRP at the existing HBPP site. While all of these alternative sites are served by 60-kV transmission, the existing service is not designed for loads that would be required to export power from the HBRP.

Each of the alternative sites considered is located more than 10 miles from the nearest 115-kV transmission line (the nearest, Palco Fortuna, is 13.3 miles; the farthest, Palco Scotia, is 21.2 miles). Construction of a new generation tie-line to serve any of these alternative sites with 115-kV transmission would require several miles of new right-of-way, much of it in the Coastal Zone. In order to supply the Humboldt load pocket in the manner that is required, a new 115-kV transmission line would likely need to interconnect at either the Humboldt Substation located in Eureka or at the existing HBPP substation. The cost of building this line would be very high and potential environmental impacts include loss of wetlands and endangered species habitat, as well as visual resources impacts.

In addition to requiring the construction of a 115-kV generation tie-line, the two Samoa Peninsula alternative sites would require construction of more than 7 miles of natural gas pipeline. While much of this construction would be placed in existing roadway utility corridors, connection with the existing natural gas trunk line near US-101 in Arcata would require horizontal directional drilling under several major waterways that drain into the north end of Arcata Bay, running the risk of damaging sensitive fish and invertebrate habitat.

Due to the unknown costs of transmission right-of-way acquisition, design, construction, and environmental mitigation, and undetermined environmental effects at this time, staff cannot conclude if any of the alternative sites would be environmentally superior.

NO PROJECT ALTERNATIVE

The No Project Alternative under CEQA assumes that a project is not constructed. The CEQA Guidelines state that “the purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed

project with the impact of not approving the proposed project” (Cal. Code Regs., tit. 14, §15126.6[i]).

If the proposed HBRP were not built, the existing HBPP Units 1 and 2 and MEPPs would continue operation in order to support the electrical demand in the Humboldt load pocket. The existing units would continue to convert fuel to electricity at a 13,981 British thermal units per kilowatt (btu/KWh) heat rate, 33% less efficient than the proposed HBRP and, as a result, significant fuel reduction savings would not be realized. In addition, the proposed HBRP’s 83% reduction in ozone precursors, 77% reduction in PM₁₀ precursors, and 34% reduction in CO₂ air emissions, compared with the existing units, would not be realized. The existing ocean water once-through cooling system would continue to operate, using 52,000 gallons per minute (gpm) of ocean water from Humboldt Bay.

The No Project Alternative would not meet the proposed project objectives. It would not serve the growing needs of Humboldt County and California’s businesses and residents for economical, reliable, and environmentally sound generation resources.

SUMMARY AND COMPARISON

Staff has explored a range of reasonable alternatives to the project, or to the location of the project, examining if there are any alternatives which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen the significant cancer risk that could result from the project as concluded from staff’s preliminary analysis. The determination that the Humboldt Bay Repowering Project (HBRP) could cause a significant cancer risk is discussed in the Public Health section of this Preliminary Staff Assessment (PSA). Staff is unable to make any conclusions at this time as to whether there are any environmentally superior alternatives to the proposed HBRP, and intends to further explore alternatives that could avoid or substantially lessen the project’s cancer risk prior to preparing the Final Staff Assessment.

APPENDIX A: ALTERNATIVES CONSIDERED BUT ELIMINATED

ALTERNATIVE TECHNOLOGIES

This section describes alternatives that did not satisfy the screening criteria for inclusion in a more detailed analysis, and include the following:

- Conventional Boiler and Steam Turbine;
- Kalina Combined-Cycle;
- Advanced Combustion Turbine Engines;
- Conservation and Demand-Side Management;
- Oil/Natural Gas/Coal;
- Nuclear;
- Geothermal;
- Hydroelectric;
- Biomass;
- Solar; and
- Wind .

These alternatives, and the reasons for their not being considered in detail in this analysis, are addressed below.

Conventional Boiler and Steam Turbine

This technology, currently in place at the HBPP, burns fuel in the furnace of a conventional boiler to create steam. The steam is utilized by driving a steam turbine-generator, condensed, and returned to the boiler. This outdated technology is only able to achieve thermal efficiencies up to approximately 36% when utilizing natural gas, compared to 48% for the reciprocating engine generator units. Due to this low efficiency and the large amount of space that it would require, this technology was eliminated from consideration.

Kalina Combined-Cycle

The Kalina combined-cycle is similar to the conventional combined-cycle, with the exception that a mixture of ammonia and water is used in place of pure water in the steam cycle. This technology potentially increases combined-cycle thermal efficiencies by several percentage points. However, since this technology is still in the development stage and has not been commercially tested, it was removed from consideration. In addition, this technology was not proposed as part of the LTRFO; therefore, it could not be considered by PG&E in its evaluation.

Advanced Combustion Turbine Engines

The steam-injected gas turbine (STIG), the intercooled steam-recuperated gas turbine (ISRGT), the chemically, recuperated gas turbine (CRGT), and the humid air turbine (HAT) cycle are combustion turbines designed to enhance thermal efficiency by

injecting steam or staged firing. The STIG is less efficient than other technologies, uses large amounts of de-ionized water and is only able to achieve thermal efficiencies up to approximately 40%. The ISRG, CRGT, and HAT are not yet commercially available. All of these technologies were removed from consideration. In addition, these technologies were not proposed as part of the LTRFO; therefore, they could not be considered by PG&E in its evaluation.

Conservation and Demand-Side Management

Conservation and Demand-Side Management consists of a variety of approaches, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution. Public Resources Code Section 25305(c) states that conservation, load management, or other demand reducing measures reasonably expected to occur shall be explicitly examined in the Energy Commission's energy forecasts and shall not be considered as alternatives to a proposed facility during the siting process. The forecast that addresses this issue is the Energy Commission's *Integrated Energy Policy Report*. Thus, conservation and demand-side management is not included in this analysis.

Oil/Natural Gas/Coal

These technologies are commercially available and could be implemented. However, because of relatively low efficiency, they emit a greater quantity of air pollutants per kilowatt-hour generated than technologies that are more efficient. The cost of production is generally high relative to combined-cycle/natural gas-fired technologies.

Nuclear

California law prohibits new nuclear plants until the scientific and engineering feasibility of disposal of high-level radioactive waste has been demonstrated. To date, the Energy Commission is unable to make the findings of disposal feasibility required by law for this alternative viable in California. The technology, therefore, is not implementable.

Geothermal

The north coast area of California in the vicinity of Humboldt County has a low potential for geothermal resources to support power production development (DOE 2007).

Hydroelectric

While hydropower does not require burning fossil fuels and may be available in California, this power source can cause significant environmental impacts, due primarily to the inundation of many acres of potentially valuable habitat and the interference with fish movements during their life cycles. Streams and rivers of the state are already appropriated and developed to a large degree, if not protected from development by wild and scenic river designations. In addition, planning and permitting time is on the order of 10 years. As a result, it is extremely unlikely that new large hydropower facilities could be developed and permitted in California within the next several years (Aspen 2001).

Biomass

Biomass generation uses a waste vegetation fuel source such as wood chips (the preferred source) or agricultural waste. The fuel is usually burned in a combustion process to

generate steam. Due to the nature of their fuel, biomass facilities generate substantially greater quantities of air pollutant emissions than natural gas burning facilities, and typically require significant quantities of water associated with steam condensation cooling requirements. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the 163-MW HBRP project. At the peak of the biomass industry, 66 biomass plants were in operation in California, but as of 2001, only about 30 direct-combustion biomass facilities were in operation (CEC 2004c). These power plants would have potentially significant environmental impacts of their own. Biomass fuels are not locally available in sufficient quantities to make them a practical alternative fuel to meet the capacity needs of the HBRP. The thermal efficiency of biomass generation is similar to that of the existing Units 1 and 2 at HBPP on the order of 37%, and compared to the proposed HBRP technology with a thermal efficiency of about 48%, would therefore be about 30% less efficient than the proposed project. The steam turbine technology used for most biomass generation is also not capable of rapid start and load changes, as would be needed in the absence of the existing Mobile Emergency Power Plants to respond to natural gas curtailments or interruptions in importing electricity from the 115 kV transmission system.

Solar

There are two types of solar generation: solar thermal power and photovoltaic (PV) power generation.

Solar thermal power generation involves the conversion of solar radiation to thermal energy, which is then used to run a conventional steam power system. Solar thermal is a viable alternative to conventional generation systems and, depending on the technology, is suited to either distributed generation on the kW scale or to centralized power generation on scales up to several hundred MW. Solar thermal systems use three designs to generate electricity: parabolic trough concentrating collectors, power tower/heliostat configurations, and parabolic dish collectors. Parabolic trough and power tower systems typically run conventional power units, such as steam turbines, while parabolic dish systems power a small engine at the focal point of the collector.

PV power generation involves the direct conversion of light to electricity. PV is best suited to distributed generation uses rather than centralized power generation. PV is the most capital intensive of any alternative generation technology (Aspen 2001). PV power systems consist of solar electric modules (built from PV cells) assembled into arrays of varying sizes to produce electric power proportional to the area of the array and the intensity of the sunlight. PV arrays can be mounted on either the ground or on buildings. They can be installed on dual-purpose structures such as covered parking lots.

Solar resources would require large land areas in order to generate 163 MW of electricity. Specifically, assuming location in an area receiving maximum solar exposure such as the desert areas of California, central receiver solar thermal projects require approximately 5 acres per MW, so 163 MW would require approximately 815 acres. One square kilometer of PV generation (400 acres) can produce 100 MW of power, so 163 MW would require approximately 652 acres. Either of these technologies would use significantly more land area than the area required for the proposed HBRP.

Although air emissions are significantly reduced or eliminated for solar facilities, these facilities can have significant visual effects. Solar generation results in the absence or reduction in air pollutant emissions and visible plumes. Water consumption for solar generation is substantially less than for a geothermal or natural gas-fired plant because there is no thermal cooling requirement. However, development over a large area could affect numerous biological resources and would require careful analysis of potential impacts from either solar or PV generation at such a scale.

Like all technologies generating power for sale into the state's power grid, solar thermal facilities and PV generation require near access to transmission lines. Large solar thermal plants must be located in desert areas with high direct normal insolation, and in these remote areas, transmission availability is limited. Additionally, solar energy technologies cannot provide full-time availability due to the natural intermittent availability of sunlight. Therefore, solar thermal power and photovoltaic power generation would not successfully meet the proposed project objectives.

Wind

Wind carries kinetic energy that can be used to spin the blades of a wind turbine rotor and an electrical generator, which then feeds alternating current into the utility grid. Most state-of-the-art wind turbines operating today convert 35 to 40% of the wind's kinetic energy into electricity. Modern wind turbines represent viable alternatives to large bulk power fossil power plants as well as small-scale distributed systems. The range of capacity for an individual wind turbine today ranges from 400 watts up to 3.6 MW. California's 1,700 MW of wind power represents 1.5% of the state's electrical capacity (Aspen 2001).

Although air emissions are significantly reduced or eliminated for wind facilities, these facilities can have significant visual effects. Wind turbines have also caused bird mortality (especially for raptors) resulting from collision with rotating blades, although this effect is more noted in the Altamont Pass area than in other parts of the state.

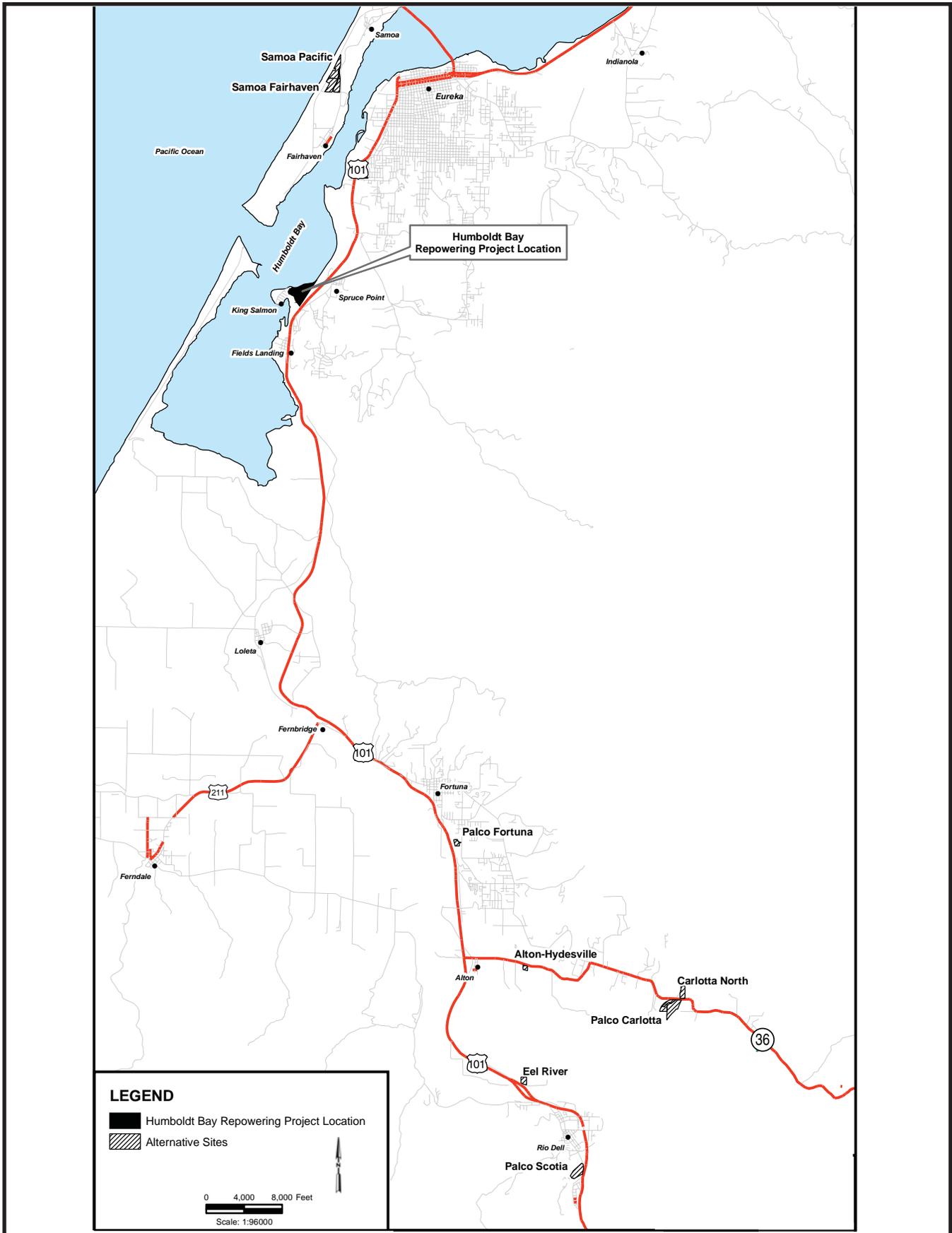
Developing wind resources would require large land areas in order to generate 163 MW of electricity. Depending on the size of the wind turbines, wind generation "farms" generally can require between 5 and 17 acres to generate one megawatt (CEC 2004a). A 163-MW plant would therefore require between 815 and 2,771 acres. The lack of available transmission access is an important barrier to wind power development (Beck et al. 2001). California has a diversity of existing and potential wind resource regions that are located near load centers such as San Francisco, Los Angeles, San Diego, and Sacramento (CEC 2004b). Shell WindEnergy is proposing to construct the Bear River Wind Power Project in Humboldt County, which would consist of 30 to 35 wind turbine-generators with an aggregate generating capacity of 60 to 70 MW (HCCDSD 2007). Wind energy as a renewable resource, would contribute to PG&E's Renewable Portfolio Standard (RPS), in which the CPUC has designated that a minimum of 20% of PG&E's generation resources are to be provided by renewable resources by 2010. While wind energy is a potential renewable resource available in Humboldt County, wind energy technologies alone cannot provide full-time availability and reliability for meeting customer demands in the Humboldt Load Pocket due to the natural intermittent availability of wind resources. Therefore, wind generation technology alone would not meet the proposed project objectives. However, the proposed design of

HBRP with ten generating units and the ability to operate efficiently over nearly the full range of its 163 MW capacity, would be able to operate as a complement to renewable energy resources when they are developed and able to supply power to the Humboldt load pocket.

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ALTERNATIVES - FIGURE 1
Humboldt Bay Repowering Project - Alternative Sites



CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 9.6-1

GENERAL CONDITIONS INCLUDING COMPLIANCE MONITORING AND CLOSURE PLAN

Lance Shaw

INTRODUCTION

The project's General Compliance Conditions of Certification, including Compliance Monitoring and Closure Plan (Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated and closed in compliance with public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the California Energy Commission and specified in the written decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of elements that:

- set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;
- set forth the requirements for handling confidential records and maintaining the compliance record;
- state procedures for settling disputes and making post-certification changes;
- state the requirements for periodic compliance reports and other administrative procedures that are necessary to verify the compliance status for all Energy Commission approved conditions of certification;
- establish requirements for facility closure plans; and
- specify conditions of certification for each technical area containing the measures required to mitigate any and all potential adverse project impacts associated with construction, operation and closure to an insignificant level. Each specific condition of certification also includes a verification provision that describes the method of assuring that the condition has been satisfied.

DEFINITIONS

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

PRE-CONSTRUCTION SITE MOBILIZATION

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

CONSTRUCTION GROUND DISTURBANCE

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

CONSTRUCTION GRADING, BORING, AND TRENCHING

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

CONSTRUCTION

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

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

START OF COMMERCIAL OPERATION

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

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

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

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

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

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

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight, and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

ENERGY COMMISSION RECORD

The Energy Commission shall maintain as a public record, in either the Compliance file or Dockets file, for the life of the project (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 Energy Commission; and
4. all petitions for project or condition of certification changes and the resulting staff or Energy Commission action.

PROJECT OWNER RESPONSIBILITIES

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

COMPLIANCE CONDITIONS OF CERTIFICATION

Unrestricted Access (COMPLIANCE-1)

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

Compliance Record (COMPLIANCE-2)

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

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

Compliance Verification Submittals (COMPLIANCE-3)

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

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

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

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

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal.** The project owner shall also identify those submittals **not** required by a condition of certification with

a statement such as: "This submittal is for information only and is not required by a specific condition of certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

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

All submittals shall be addressed as follows:

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

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

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

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

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

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

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

Compliance Reporting

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions

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

Compliance Matrix (COMPLIANCE-5)

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

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

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

Monthly Compliance Report (COMPLIANCE-6)

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

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

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

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

Annual Compliance Report (COMPLIANCE-7)

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

1. an updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and submitted as attachments to the Annual Compliance Report;

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

Confidential Information (COMPLIANCE-8)

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

Annual Energy Facility Compliance Fee (COMPLIANCE-9)

Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annual fee currently sixteen thousand eight hundred fifty dollars (\$16,850), which will be adjusted annually on July 1. The initial payment is due on the date the Energy Commission adopts the final decision. All subsequent payments are due by July 1 of each year in which the facility retains its certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office MS-02, California Energy Commission, 1516 9th St., Sacramento, CA 95814.

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

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

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

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

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

FACILITY CLOSURE

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

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

CLOSURE DEFINITIONS

Planned Closure

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

Unplanned Temporary Closure

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

Unplanned Permanent Closure

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

COMPLIANCE CONDITIONS FOR FACILITY CLOSURE

Planned Closure (COMPLIANCE-11)

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

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

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

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

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

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

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

necessary steps to mitigate public health and safety impacts and environmental impacts are taken in a timely manner.

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

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

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

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

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

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

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

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

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

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

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

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

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. **It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769.** Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code.

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

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

Amendment

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

Change of Ownership

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

Insignificant Project Change

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

Verification Change

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

CBO DELEGATION AND AGENCY COOPERATION

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

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

ENFORCEMENT

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

NONCOMPLIANCE COMPLAINT PROCEDURES

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

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

Informal Dispute Resolution Procedure

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

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

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

Request for Informal Investigation

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

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

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

Request for Informal Meeting

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

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum that fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1237.

Formal Dispute Resolution Procedure-Complaints and Investigations

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

KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION

DATE

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

COMPLIANCE TABLE 1
SUMMARY of COMPLIANCE CONDITIONS OF CERTIFICATION

CONDITION NUMBER	SUBJECT	DESCRIPTION
COMPLIANCE-1	Unrestricted Access	The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site.
COMPLIANCE-2	Compliance Record	The project owner shall maintain project files on-site. Energy Commission staff and delegate agencies shall be given unrestricted access to the files.
COMPLIANCE-3	Compliance Verification Submittals	The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed or the project owner or his agent.
COMPLIANCE-4	Pre-construction Matrix and Tasks Prior to Start of Construction	<p>Construction shall not commence until the all of the following activities/submittals have been completed:</p> <ul style="list-style-type: none"> ▪ property owners living within one mile of the project have been notified of a telephone number to contact for questions, complaints or concerns, ▪ a pre-construction matrix has been submitted identifying only those conditions that must be fulfilled before the start of construction, ▪ all pre-construction conditions have been complied with, ▪ the CPM has issued a letter to the project owner authorizing construction.
COMPLIANCE-5	Compliance Matrix	The project owner shall submit a compliance matrix (in a spreadsheet format) with each monthly and annual compliance report which includes the status of all compliance conditions of certification.
COMPLIANCE-6	Monthly Compliance Report including a Key Events List	During construction, the project owner shall submit Monthly Compliance Reports (MCRs) which include specific information. The first MCR is due the month following the Energy Commission business meeting date on which the project was approved and shall include an initial list of dates for each of the events identified on the Key Events List.
COMPLIANCE-7	Annual Compliance Reports	After construction ends and throughout the life of the project, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports.

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

ATTACHMENT A

COMPLAINT REPORT/RESOLUTION FORM

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

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

PREPARATION TEAM

HUMBOLDT BAY REPOWERING PROJECT PREPARATION TEAM

Executive Summary	John S. Kessler, P.E.
Introduction	John S. Kessler, P.E.
Project Description	John S. Kessler, P.E.
Air Quality.....	Brewster Birdsall, P.E., QEP and Keith Golden
Biological Resources.....	N. Misa Ward
Cultural Resources.....	Beverly E. Bastian
Hazardous Materials Management.....	Alvin J. Greenberg, Ph.D. and Rick Tyler
Land Use.....	Amanda Stennick
Noise and Vibration.....	Steve Baker
Public Health.....	Alvin J. Greenberg, Ph.D.
Socioeconomic Resources	Joe Diamond, Ph. D.
Soils and Water Resources.....	Ellen Townsend-Hough and John S. Kessler, P.E.
Traffic and Transportation	Jason Ricks and Somer Goulet, M.S.E.L.
Transmission Line Safety and Nuisance	Obed Odoemelam, Ph.D.
Visual Resources	Mark R. Hamblin
Waste Management.....	Alvin J. Greenberg, Ph.D.
Worker Safety and Fire Protection	Alvin J. Greenberg, Ph.D. and Rick Tyler
Facility Design.....	Shahab Khoshmashrab
Geology and Paleontology	Dal Hunter, Ph.D., C.E.G.
Power Plant Efficiency.....	Steve Baker
Power Plant Reliability.....	Steve Baker
Transmission System Engineering.....	Ajoy Guha, P.E. and Mark Hesters
Alternatives	Stanley Yeh and John S. Kessler, P.E.
General Conditions including Compliance Monitoring & Facility Closure	Lance Shaw
Project Secretary.....	Terry Piotrowski

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

APPLICATION FOR CERTIFICATION FOR THE
HUMBOLDT BAY REPOWERING PROJECT
BY PACIFIC GAS AND ELECTRIC COMPANY

Docket No. 06-AFC-7
PROOF OF SERVICE
(Revised 10/25/07)

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 06-AFC-07
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

APPLICANT

Jon Maring
PGE
245 Market Street
San Francisco, CA 94105
J8m4@pge.com

Susan Strachan
Environmental Manager
Strachan Consulting
P.O. Box 1049
Davis, CA 95617
strachan@dcn.org

APPLICANT'S CONSULTANTS

*Gregory Lamberg
Project Manager,
Radback Energy
P.O. Box 1690
Danville, CA 94526
Greg.Lamberg@Radback.com

Douglas M. Davy, Ph.D.
CH2M HILL Project Manager
2485 Natomas Park Drive, Suite 600
Sacramento, CA 95833
ddavy@ch2m.com

COUNSEL FOR APPLICANT

Scott Galati, Project Attorney
GALATI & BLEK, LLP
555 Capitol Mall, Suite 600
Sacramento, CA 95814
sgalati@gb-llp.com

INTERESTED AGENCIES

Tom Luster
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219
tluster@coastal.ca.gov

Paul Didsayabutra
Ca. Independent System Operator
151 Blue Ravine Road
Folsom, CA 95630
PDidsayabutra@caiso.com

Electricity Oversight Board
770 L Street, Suite 1250
Sacramento, CA 95814
esaltmarsh@eob.ca.gov

INTERVENORS

ENERGY COMMISSION

JEFFREY D. BYRON
Associate Member
jbyron@energy.state.ca.us

JOHN L. GEESMAN
Presiding Member
jgeesman@energy.state.ca.us

Gary Fay
Hearing Officer
gfay@energy.state.ca.us

John Kessler
Project Manager
jkessler@energy.state.ca.us

Lisa DeCarlo
Staff Counsel
ldecarlo@energy.state.ca.us

Mike Monasmith
Public Adviser's Office
pao@energy.state.ca.us

DECLARATION OF SERVICE

I, Terry Piotrowski, declare that on November 29, 2007, I deposited copies of the attached Humboldt Bay Repowering Project – Preliminary Staff Assessment in the United States mail at Sacramento, CA with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed by _____
Terry Piotrowski