VISUAL RESOURCES

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SUMMARY OF CONCLUSIONS

Staff has analyzed visual resource related information pertaining to the proposed Humboldt Bay Repowering Project (HBRP), and found that the project would not introduce an adverse "Aesthetic" impact under the California Environmental Quality Act (CEQA) and Guidelines, and would comply with applicable laws, ordinances, regulations, and standards (LORS) pertaining to aesthetics, or preservation and protection of sensitive visual resources.

INTRODUCTION

Visual resources are the viewable natural and man-made features of the environment. In this section, staff evaluates the proposed project's construction and operation using the "Aesthetic" section in the CEQA Guidelines to determine if the project would introduce a significant impact under CEQA, and if the project would comply with applicable state and local LORS pertaining to aesthetics, or preservation and protection of sensitive visual resources.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Visual Resources Table 1 provides a general description of identified adopted federal, state, and local LORS pertaining to aesthetics, or preservation and protection of sensitive visual resources relevant to the proposed project.

VISUAL RESOURCES Table 1
Laws, Ordinances, Regulations, and Standards Laws

Applicable LORS	Description
Federal	
Transportation Equity Act for the 21st Century of 1998, and Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2005.	The project site does not involve federal managed lands, nor a recognized National Scenic Byway or All-American Road within its vicinity.
State	
California Coastal Act of 1976, Section 30251 – Scenic and Visual Qualities	The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and

	enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.
California Streets and Highways Code, Sections 260 through 263 – Scenic Highways	Ensures the protection of highway corridors that reflect the State's natural scenic beauty.
Local	
Humboldt County General Plan, Vol. II Humboldt Bay Area Plan of the Humboldt County Local Coastal Program, April 1995 (certified by California Coastal Commission on October 14, 1982)	This area plan represents one of six county coastal planning areas. It identifies land uses and standards by which development will be evaluated within the Coastal Zone. The plan identifies uses and provides standards adopted by the county of Humboldt, and certified by the California Coastal Commission that are in conformance and satisfy the polices and requirements for coastal land use contained in the California Coastal Act 1976.
-Section 3.13 Coastal-Dependent Development/Industrial (MC)	Coastal-dependent industrial facilities are encouraged to locate or expand within existing sites and be permitted reasonable long-term growth where consistent with this division. 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.
- Section 3.40 Visual Resource Protection	The scenic and visual qualities of coastal areas are to be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas.

Humboldt County Zoning Regulations - Chapter 3 – Regulations Inside the Coastal Zone	Chapter 3 contains regulations which apply exclusively within the California Coastal Zone in Humboldt County.
- Section 313-3.4 MC: Industrial/Coastal-Dependent	Coastal-Related subject to the Coastal-Dependent Industrial Regulations; heavy industrial, limited to alteration, improvement, and relocation of existing facilities.
- Section 313-103.1 Industrial Performance Standards	The purpose of these regulations is to establish minimum standards for the operation of industrial development in Humboldt County.

SETTING

The proposed Humboldt Bay Repowering Project (HBRP) would be built three miles southwest of the city of Euerka, in unincorporated Humboldt County, California. The site is situated along the eastern shore of Humboldt Bay on Buhne Point, a peninsula that protrudes into Humboldt Bay.

The proposed power plant would be constructed on an approximate 5.4-acre portion of a 143-acre property owned by Pacific Gas and Electric (PG&E) Company. The terrain of the property varies from submerged and low tidal land, protected by dikes and tide gates, to a high bluff along the southwestern boundary. The property currently contains the 50-year old Humboldt Bay Power Plant, cooling water intake and discharge canals, various large cylindrical storage tanks, emergent marshes, seasonal wetlands, and Buhne Slough.

In the area of the project site is the Pacific Ocean two miles to the west. Humboldt Hill (elevation 500 feet) is located 1.5 miles to the southeast. It has several small residential neighborhoods. The Elk River Wildlife Area is to the northeast. Coastal hills are 3-4 miles to the east and extend from the north to the southeast. The tops of these hills range from 1,500 to 2,500 feet in elevation. Further east is a mostly inaccessible mountainous area. Land uses in the vicinity can generally be described as rural residential, port-related industrial, agricultural, and recreational uses (see **Visual Resources Figure 1** – Humboldt Bay Harbor and Bay Aerial View). To the southwest of the PG&E property is King Salmon Resort, a gentrifying bay front community established in the 1940s. It consists of several hundred new and old single family residences many with water access to the bay, public and private recreation facilities that include a public beach, picnic and recreational vehicle camping area, a boat marina, fresh seafood markets and a restaurant. To the east is U.S. Highway 101 (see **Visual Resources Figure 2** – Aerial View of PG&E Property and Vicinity).

The Humboldt Bay Power Plant is a 105-megawatt (MW) natural gas fired power plant that covers a 19-acre area of the PG&E property. It operates two 100-foot tall steam boiler turbine-generators (Units 1 and 2) with 120-foot tall exhaust stacks, two 15-MW diesel-fueled gas turbine mobile emergency power plants (MEPPs), fuel tanks,

administration and service buildings, and an inoperable 63-MW nuclear-powered boiling water reactor generating unit (unit 3). Unit 3 was shutdown in 1976 (see **Visual Resources Figure 3** – View of Humboldt Bay Power Plant From King Salmon Avenue).

A segment of public trail maintained by PG&E and the Humboldt Bay Harbor Recreation and Conservation District, runs along the shoreline of the PG&E property. The public shoreline trail is to be part of the California Coastal Trail system; a 1,100 mile planned coastal trail system that would eventually extend from Oregon to Mexico (PG&E 2007, page 8.13-6). Although the trail is more than half complete much of the remaining designated trail path is fenced-off, over-built, or otherwise inaccessible (COC2007).

PROJECT

Demolition - The HBRP's construction requires the removal of several structures on the 5.4-acre project site. The most publicly visible structures to be removed would include an existing paint and sandblasting building (100 feet long by 50 feet wide by 30 feet tall), a storage building (60 feet long by 40 feet wide by 15 feet tall), and an 80-foot tall 115 kV steel lattice structure.

Project Site Structures -The HBRP's most publicly visible structures would include: ten 100-foot tall, 7-foot diameter exhaust stacks, three 78-foot tall tubular steel electric transmission poles, a 46-foot tall by 62-foot diameter diesel tank, and a 45-foot tall by 90-foot long by 230-foot wide engine hall (see **Visual Resources Figure 4** – Southwest View of Power Plant Elevation, and **Visual Resources Figure 5** – Southeast View of Power Plant Elevation).

VISUAL RESOURCES Table 2
Summary of Major Publicly Visible Structures

Project Component	Number of Units	Length, Width, Diameter	Height
Exhaust Stacks	10	7-foot diameter	100 feet
Engine Hall	1	90 feet x 230 feet	44.8 feet
Transmission Poles	3	31-foot diameter	78 feet
Circuit Breaker	1	36-feet x 1-foot	50 feet
Circuit Breaker	2	26 feet x 1-foot	36 feet
Diesel Tank	1	62-foot diameter	46 feet
Radiators	1	186 feet x 87 feet	25 feet

Transmission Line - The HBRP would connect to the Humboldt Bay Power Plant Substation on the PG&E property by means of a 150-foot long 115-kilovolt (kV) connector and a 100-foot-long 60-kV connector.

Process Water - Raw process water uses for the facility (e.g., engine cooling systems) would be supplied from PG&E's Well No. 2 by an existing underground 6-inch raw water supply pipeline located on the PG&E property.

Domestic Water - Domestic water required for non-process uses (e.g., sinks, toilets, drinking fountains) would be provided by a new underground 1,200-foot-long, 4- to 6-inch water supply pipeline that would connect with an existing Humboldt Community

Services District pipeline that runs along King Salmon Avenue. The water supply pipeline would be located on the east side of the intake channel and extend to King Salmon Avenue.

Natural Gas - A new underground 10-inch diameter pipeline would connect the HBRP site to the gas regulating station on the PG&E property.

Construction Access Road - A 24-foot wide, approximately 600-foot long gravel construction access road is to be built off King Salmon Avenue. It would travel along the east side of the intake water channel to the primary parking area (**Visual Resources Figure 6** – Proposed Construction Road Access From King Salmon Avenue).

Primary and Remote Parking Areas - The project description includes use of two parking areas (primary and remote). The primary parking area for construction personnel would occur on a 0.34-acre area at the north end of the intake water channel, approximately 600 feet from King Salmon Avenue (**Visual Resources Figure 7**- Proposed Primary Parking Area).

The remote parking area would require the refurbishment of a 0.96-acre area on the PG&E property and previously used by PG&E as a construction parking lot for the Humboldt Bay Power Plant. The parking area is currently unmanaged, overgrown with vegetation, and contains broken pavement (**Visual Resources Figure 8** – Proposed Remote Parking Area). The proposed remote parking area is to be used during the peak construction period only. It provides area for 104 vehicle spaces.

Construction Laydown Area - A 2.5 acre construction laydown area is to be located on the PG&E property along Humboldt Bay. This area currently contains two lined, boiler washdown treatment ponds that were used by the Humboldt Bay Power Plant (**Visual Resources Figure 9** – Proposed Construction Laydown Area). The ponds are to be removed so the area can be used for construction laydown. The area would be used for the storage of equipment and materials. Once construction of HBRP is complete, PG&E may use the laydown area for the future demolition of the Humboldt Bay Power Plant.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

To determine whether there is a potentially significant visual resources impact generated by a project, Energy Commission staff reviews the project using the 2006 CEQA Guidelines Appendix G Environmental Checklist pertaining to “Aesthetics.” The checklist questions include the following:

A. Would the project have a substantial adverse effect on a scenic vista?

B. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

C. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

D. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Staff evaluates the existing visible physical environmental setting from a fixed vantage point (called a "Key Observation Point" [KOP]), and the visual change introduced by the proposed project to the view from that KOP. The view as seen from the KOP is referred to as the viewshed. Staff uses a KOP[1] to represent a location(s) from which to conduct detailed analyses of the proposed project and to obtain existing condition photographs and prepare photo simulations. KOPs are selected to be representative of the most critical viewshed locations from which the project would be seen. Because it is not feasible to analyze all the views in which a proposed project would be seen, it is necessary to select KOPs that would most clearly display the visual effects of the proposed project. KOPs may also represent primary viewer groups that would potentially be affected by the project. In addition to the KOP photo(s), staff reviews landscape character photos that help provide a visual overview of a project site, its vicinity, and the selected KOP area.

Staff also reviews federal, state, and local LORS and their policies or guidelines for aesthetics, or preservation and protection of sensitive visual resources that may be applicable to the project site and surrounding area. These LORS include local government land use planning documents (e.g., General Plan, zoning ordinance).

Please refer to **APPENDIX VR-1** for a complete description of staff's visual resources evaluation process. **APPENDIX VR-2** provides terms defined by staff for the purpose of this analysis.

Visual Resources Figure 10 shows the locations of the six KOPs used in this analysis:

- KOP 1 – Northbound U.S. Interstate 101 Looking West;
- KOP 2 – King Salmon Avenue Looking North;
- KOP 3 – Humboldt Bay Public Shoreline Trail Looking South;
- KOP 4 – Loma Avenue On Humboldt Hill Looking Northwest;
- KOP 5 – Spruce Vista Point Looking Southwest; and,
- KOP 6 – South Spit Wildlife Area Looking Across Humboldt Bay.

Staff's analysis of the project's effect on each KOP is presented under **Operation Impacts**.

DIRECT/INDIRECT IMPACTS AND MITIGATION

The impact discussion is presented under the following topics: scenic vista, scenic resources, visual character or quality, and light or glare.

[1]The use of KOPs or similar view locations is common in visual resource analysis. The U.S. Bureau of Land Management (USDI BLM 1986a, 1986b, 1984) and the U.S. Forest Service (USDA Forest Service 1995) use such an approach.

A. SCENIC VISTA

"Would the project have a substantial adverse effect on a scenic vista?"

A scenic vista for the purpose of this analysis is defined as a distant view through and along a corridor or opening that exhibits a high degree of pictorial quality. There are no scenic vistas in the KOP 1, KOP 2, KOP 3, KOP 4, KOP 5 and KOP 6 viewsheds. The proposed project would not cause a significant visual impact to a scenic vista.

B. SCENIC RESOURCES

"Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?"

A scenic resource for the purpose of this analysis includes a unique water feature (waterfall, transitional water, part of a stream or river, estuary); a unique physical geological terrain feature (rock masses, outcroppings, layers or spires); a tree having a unique visual/historical importance to a community (a tree linked to a famous event or person, an ancient old growth tree); historic building; or a designated federal scenic byway or state scenic highway corridor.

There are no officially designated state scenic highways in Humboldt County (Caltrans2007). At the current time, both U.S. Highway 101(approximately 1,000 feet east of the HBRP site) and State Route 255 are listed as "eligible." The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway.

Humboldt Bay is California's second largest natural bay and estuary, and is the only deep-water port on the North Coast. The bay covers approximately 27 square miles. The bay serves as a major transportation link between the Pacific Northwest and the rest of the maritime world. Portions of the bay can be seen in the viewsheds of KOP 4, KOP 5, and KOP 6.

Commercial/industrial harbor uses are limited to mid-Humboldt Bay, an area extending from the Samoa Bridge south to the southern end of the Fields Landing Channel. The major Humboldt Bay shipping terminals consist of the Fairhaven Business Park, Humboldt Bay Forest Products, Fields Landing Terminal, Redwood Marine Terminal, Schneider Dock, Sierra Pacific Eureka Dock and Simpson Chip Export. Humboldt Bay Forest Products is the closest shipping terminal to the project site; it is approximately 4,000 feet to the southwest from it.

Humboldt Harbor is listed number 882 on California Historical Landmarks. Humboldt Harbor is approximately 5 miles to the north, and is not within the viewsheds of KOP 1 through 6.

The Humboldt Bay National Wildlife Refuge is located at the southern end of Humboldt Bay, approximately 5 miles from the PG&E property. The Wildlife Refuge

consists of 4,604 total acres of open ocean; coastal marsh; coastal mudflats; estuarine; riparian forest; brackish/freshwater wetlands; coastal sand dune; and coastal dune forest habitats. It attracts large numbers of waterfowl, shorebirds, and migratory birds from the Pacific Flyway. It is maintained by the U.S. Fish and Wildlife Service. The Humboldt Bay National Wildlife Refuge is not visible within the viewsheds of KOP 1-6.

Although portions of Humboldt Bay are visible in the KOP 1, KOP 4, KOP 5 and KOP 6 viewsheds, the portions of the bay seen are not identified as a scenic resource. The proposed project would not damage views of an identified scenic resource and would not cause a significant visual impact to a scenic resource.

C. VISUAL CHARACTER OR QUALITY

"Would the project substantially degrade the existing visual character or quality of the site and its surroundings?" The project aspects evaluated under this criterion are broken down into two categories: Construction Impacts and Operation Impacts.

Construction Impacts

Project Site Construction activities for the project would occur over an approximate 18-month period. After demolition of existing structures is complete, the topsoil would be removed, and the stormwater drainage system would be installed with the first layer of engineered fill. Next, piles would be driven to appropriate depths and cut to the appropriate foundation levels. Underground utilities, conduits and grounding grids would be laid out. The subsequent layers of engineered fill would be installed to complete the soil exchange. The plant site would be built up to the elevation necessary to avoid the 100-year floodplain (13 feet above mean sea level) (PG&E2007, page 2-34).

The construction access road would be prepared at the onset of construction to enable the delivery of the engines, generators and auxiliary equipment.

After the soils and piling work, the foundation work would begin. When foundations have reached their required strength (75% of the total strength), the erection of the steel structures would begin for the engine hall. Subsequently, as foundations are made ready, steel structures for stacks and auxiliary equipment support would also be completed.

Other buildings, such as the control/administration building, maintenance building, and switchgear rooms would be installed next. Pre-fabricated buildings would be delivered in sections and installed on completed foundations. For buildings fabricated onsite, steel work will be completed first. Tanks would be installed after the buildings are constructed.

As engine hall erection proceeds, mechanical and electrical contractors would start work on piping runs, cable tray, conduits, and building lighting. Engines would then be delivered to the site and offloaded by the rigging contractor directly to their foundations. Auxiliary equipment would be delivered to the laydown area and offloaded by crane or forklift for later installation. Step-up transformers will be delivered to the switchyard area and assembled. Once the engines are delivered and set, the ventilation units would be installed on the engine hall. After all large equipment has been delivered the on-site

roadways and gravel areas would be completed. During the final phase of construction, the mechanical auxiliary equipment would be installed and connected. At the same time, the electrical auxiliary equipment and interconnecting cable tray, conduit, and cabling would be installed. Final tie-ins to utility sources would take place after all piping and wiring is in place (PG&E2007, page 2-34).

Public visibility of the construction site and activities on it from U.S. Highway 101 (KOP 1), King Salmon Avenue (KOP 2), the public shoreline trail (KOP 3), Loma Avenue (KOP 4) and Spruce Vista Point (KOP 5) would occur as project structures are erected that exceed the height of onsite trees and structures.

Laydown Area - During the construction period, materials and heavy equipment on the laydown area would be publicly visible to viewers from the public shoreline trail (see KOP 3) and Spruce Vista Point (KOP 5).

Construction Access Road and Primary Parking Area - The construction access road and primary construction employee parking area would be located along the east side of the intake channel. Presently along the east side of the intake canal and Buhne Slough are ornamental plantings of gum trees, Monterey cypress, Monterey pine, and irrigated hedgerows of Rhododendron underlain with sweet vernal grass (PG&E2006a, page 8.13-30). Staff estimates 20-30 trees may be removed. The trees provide partial visual screening of existing power plant structures to the public from U.S. Highway 101 (KOP 1), King Salmon Avenue (KOP 2), and Loma Avenue (KOP 4). The applicant proposes to restore the temporary construction access road and parking area after construction is complete (PG&E 2007, page 8.2-49) (PG&E2007, page 2-6).

Remote Parking Area and Construction Worker Pedestrian Access Trail -The project includes the reuse of an area that had previously been used for vehicle parking years ago. The reuse of the area involves the removal of the existing fence, onsite debris, and vegetation (weeds), the spreading of new aggregate surfacing, and installation of a new 6-foot tall chain link fence on its perimeter. Existing pole and light fixtures in the parking area are to be replaced with fixtures that are hooded and directed downward (HBRP Data Response, page 41). The remote parking area would be used when the number of construction workers exceeds the number of available spaces in the primary parking area which is estimated to be nine months of the construction period (HBRP Data Response, page 41).

Construction worker vehicles would be publicly visible on the .96 acre area from King Salmon Avenue and from residences in King Salmon Resort. The parking area would be approximately 60 feet from the nearest residence (see **Visual Resources Figure 12** – Landscape Character Photo Showing Residence Across From Proposed Remote Parking Area On King Salmon Avenue).
In addition, lights used in the parking area would be visible to residences in King Salmon Resort. The applicant states that in addition to using hooded fixtures, they will add shields to the lights where appropriate to further mitigate the visibility of the lights from the King Salmon Avenue residents (HBRP Data Responses, page 42).

When the HBRP is completed, the temporary construction parking area is to be restored, and the eastern half of the remote parking area is to be restored as wetland.

The western half of the remote parking area would remain as a parking lot for future use involving the decommissioning and demolition of the Humboldt Bay Power Plant.

A former construction worker pedestrian access trail extends from the remote parking area to the west side of the intake channel. The trail would be refurbished and extended to the primary parking area. Workers previously used the original portion of the pedestrian trail for construction projects for the Humboldt Bay Power Plant. The pedestrian trail is visually buffered and screened by vegetation; an existing line of mature trees and marsh. The pedestrian trail is not noticeable from King Salmon Avenue during daytime.

There are existing lights along the trail which enables its use at night. The lights are not hooded. Prior to project construction, PG&E will determine whether any of the lights are visible from residents on King Salmon Avenue. If a light is visible, it will be replaced with a hood fixture. Shields would also be installed if necessary (HBRP Data Responses, page 42).

Conclusion -Typically screening of construction site activities, laydown and construction parking areas is accomplished by attaching a fabric or adding wooden slats to a perimeter fence. This screening is effective in limiting ground level visual exposure of the areas that are close to the viewer; such as a street or sidewalk next to the project site. Staff believes that the use of fabric or wooden slat screening would provide little to no visual screening of the HBRP construction site and laydown area from U.S. Highway 101 and King Salmon Avenue.

The remote parking area would be publicly visible from King Salmon Avenue and King Salmon Resort. The applicant is proposing to install a 6-foot tall fence around it. Ground level screening would reduce the visibility of cars parked on it for the handful of residences fronting it across the street and motorist on King Salmon Avenue during the peak construction time. If fabric or wooden slates were added to the fence it would make the parking area more noticeable in the streetscape. However, it may limit the visibility of vehicles entering and exiting the parking area near a curve on King Salmon Avenue. The visible parking of vehicles on the remote parking area would not visually dominate the streetscape of King Salmon Avenue due to existing trees and shrubs to the east and in the backdrop to its north.

Project construction activities would take place the majority of the time during daylight hours. Lighting that may be required to facilitate nighttime construction activities would, to the extent feasible and consistent with worker safety codes, be directed toward the center of the construction site and shielded to prevent light from straying offsite. Task-specific construction lighting would be used to the extent practical while complying with worker safety regulations. The use of shielded directional exterior lights and fixtures of a non-glare type on the project site, in the construction laydown area, the remote parking area and along the pedestrian trail would minimize offsite light and glare impacts introduced by construction activities. Staff has proposed condition of certification **VIS-1** formalizing the construction lighting measures proposed by the applicant.

The applicant proposes to bury project related linear pipelines. With the burying of pipelines and the restoration of the ground surfaces, the linear routes and parking and

laydown areas would not create a change to the existing visual condition. Staff has recommended condition of certification **VIS-2** to provide for the restoration of ground surfaces affected by construction activities (e.g., primary and remote parking areas, construction access road, laydown area, pipe alignments) to ensure that these construction activities are temporary in nature and would not result in a long-term visual degradation.

Overall, staff believes the project's proposed construction activities with the effective implementation of mitigations proposed by the applicant and staff's proposed conditions of certification **VIS-1** and **VIS-2** would generate a less than significant visual effect.

Operation Impacts

KOP 1 - Northbound U.S. Interstate 101 Looking West

Visual Resources Figure 13 represents the existing view toward the project site from northbound U.S. Highway 101, approximately 1,000 feet north of the King Salmon Avenue, and 1,300 feet from the project site.

Visual Sensitivity

The view from KOP 1 includes a portion of four asphalt lanes and grassy median of U.S. Highway 101, diked emergent marsh and seasonal wetlands interspersed with groupings of mature canopy type trees and shrubs, and partial views of the multi-color-tone 100-foot tall steam turbine-generator structure and the top of its two 120-foot tall exhaust stacks, the switch yard, steel vertical poles, overhead wires, an 80-foot lattice tower, and fuel tank. A portion of Humboldt Bay can be seen in the background. The estimated public appeal of the visual impression (quality) of the KOP 1 viewshed is considered to be moderate.

Viewers at this KOP location would mainly consist of motorist on U.S. Highway 101. Typically motorists along a rural highway have a moderate to low sensitivity to the visual environment due to their concentration on driving and their focus on their destination.

U.S. Highway 101 is not shown as an officially designated State Scenic Highway by the State of California (d.b.a., California Department of Transportation) on the California Scenic Highway Mapping System, nor is it designated a county scenic highway.

The KOP 1 viewshed does not include a scenic resource or vista. There is no scenic focal point or unique feature in the viewshed that draws the viewer's eye (e.g., rock outcroppings, historic building, etc.). The Humboldt Bay Power Plant's 100-foot steam turbine-generator structure and exhaust stacks are a focal point in the viewshed. From this KOP, a motorist would have a relatively unobstructed view of the project site. The visibility of proposed power plant structures at this KOP would be considered high.
The estimated level of viewer concern towards preserving (keeping) the existing KOP 1 viewshed as shown is considered to be moderately low.
U.S. Highway 101 connects Humboldt County north to U.S. Interstate 5 via U.S. Highway 299. Highway 101 extends to areas south along the coast to Ukiah and San Francisco. According to traffic counts conducted by the California Department of Transportation (Caltrans) in 2005, U.S. Highway 101 carries approximately 27,000 average daily vehicle trips in the vicinity of the project site (PG&E 2006a, page 8.12-1).

If at least one individual per vehicle trip was exposed to a view of the project site with publicly visible structures, this number of exposures would be considered high.

Viewers at this KOP would be exposed to a short duration, relatively unobstructed view of the potential project. The posted speed limit along this segment of the highway is 65 miles per hour. Staff visited the project site in December 2006 and estimates the duration of view for motorists traveling northbound U.S. Highway 101 through the KOP 1 viewshed to be ten to twenty seconds (short) which is considered to be moderately low. Overall exposure for motorists is considered to be moderately high.

The overall visual sensitivity for motorists would be considered moderate from KOP 1. This assessment is the result of a moderate visual quality, moderately low viewer concern, and a moderately high overall viewer exposure.

Visual Change

Visual Resources Figure 14 presents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 1 viewshed. The photo simulation does not show the proposed landscaping.

The project would introduce to the viewshed a 90-foot tall rectangular engine hall and two groups of five cor-ten (rust-colored) steel exhaust stacks (100-feet tall). A 46-foot tall diesel storage tank would be located east of the engine hall. Project structures would be painted a neutral, non-reflective gray color.

The contrast (includes form, line, color, and texture) introduced by the project's publicly visible structures would demand attention, would not be overlooked, and would be dominant from this KOP. The potential contrast of the structures is considered strong (high).

The photo simulation shows that the proportionate size relationship of the visible project structures to other man-made and natural elements would occupy a medium portion of the total field-of-view of KOP 1. The structures would visually appear co-dominate when compared to other elements in the KOP view. The relative visual scale of the structures as simulated in the KOP 1 viewshed is considered to be moderate.

The degree of view disruption (blockage) introduced by project structures is considered to be moderately low. The view of blue sky blocked by project structures is considered small. Existing structures (temporary offices, paint and sandblasting building, storage building and lattice tower) and vegetation would be removed. The view disruption is considered to be moderately low. Although a greater amount of sky would be blocked from this viewpoint Humboldt Bay would not be blocked to a greater degree.

The removal of 50 to 65-foot tall trees along the intake canal would cause existing structures associated with the Humboldt Bay Power Plant (e.g., the steam boiler turbine-generator structure, fuel tanks, the switchyard) to become more visible to viewers on U.S. Highway 101. The trees currently help screen direct views of structures and soften the industrial character of the facility in the viewshed.

The overall visual change caused by the introduction of the proposed project's structures into the viewshed is considered to be moderate as a result of a high visual contrast, moderate visual scale, and moderately low view disruption.

Staff concludes the introduction of project structures would not substantially degrade the existing viewshed at KOP 1. When considering the overall visual sensitivity of the viewing group at KOP 1 (motorists [moderate]), and the moderate overall visual change, the introduction of the proposed project's publicly visible structures would generate a less than significant visual effect at this KOP.

KOP 2 – King Salmon Avenue Looking North

Visual Resources Figure 15 represents the existing view from King Salmon Avenue looking north toward the project site approximately 1,300 feet away.

Visual Sensitivity

The view from KOP 2 towards the project site includes diked emergent marsh and seasonal wetlands, a line of mature canopy trees and shrubs, partial view of the 100-foot tall steam turbine-generator structure and its exhaust stacks, the switch yard, steel vertical poles, overhead wires, an 80-foot lattice tower, and two diesel-fueled gas turbine mobile emergency power plants. The estimated public appeal of the visual quality of the KOP 2 viewshed is considered moderate.

Viewers at this KOP location would mainly consist of residents traveling to and from King Salmon Resort. The estimated level of viewer concern towards preserving the existing KOP 2 viewshed is considered to be moderately low. The viewshed does not include a designated scenic resource or vista. From this KOP, viewers would have a relatively unobstructed view of the project site. The visibility of the proposed power plant is considered to be high.

According to King Salmon Avenue traffic count provided by the applicant in the Application for Certification (AFC), King Salmon Avenue carries approximately 2,355 average daily vehicle trips (PG&E 2006a, page 8.12-2). If at least one individual per vehicle trip was exposed to a view of the project site with potential power plant structures, the estimated number of viewer exposures would be considered moderately low.

Viewers would be exposed to a short duration, relatively unobstructed view of the potential project. Staff visited the project site and estimates the duration of view for individuals traveling on King Salmon Avenue through the KOP 2 viewshed to be 20 to 60 seconds which is considered moderate. Overall exposure for viewers on King Salmon Avenue is considered to be moderate.

The overall visual sensitivity for viewers would be considered moderate from the KOP 2 location. This assessment is the result of a moderate visual quality, moderately low viewer concern, and a moderate overall viewer exposure.

Visual Change

Visual Resources Figure 16 presents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 2 viewshed. The photo simulation does not show the proposed landscaping.

The project would introduce to the viewshed a 90-foot tall engine hall, two groups of five stacks, and a 46-foot tall diesel storage tank. The structures would be painted a neutral, non-reflective gray color, and the exhaust stacks would be cor-ten (rust-colored) steel (PG&E2006a, page 8.13-10).

The contrast introduced by the project's publicly visible structures would demand attention, would not be overlooked and would be dominant from this KOP location. The potential contrast of the structures is considered strong. The multi-color-tone 100-foot tall Humboldt Bay Power Plant units 1 and 2, the substation, and the HBRP 90-foot tall engine hall would be more visible due to the removal of trees and other vegetation until the proposed landscaping matures.

The applicant has provided a draft landscaping plan dated February 7, 2007 for the PG&E property (**Visual Resources Figure 11a** – Draft Landscape Plan - Sheet 1) and **Visual Resources Figure 11b** – Draft Landscape Plan - Sheet 2)). Proposed landscaping would replace and expand the amount of screening seen from King Salmon Avenue (PG&E2006a, page 8.13-13). Landscaping would include the installation of native, evergreen trees and shrubs. The draft landscape plan shows the planting of coniferous evergreen trees on the PG&E property and the HBRP site. New trees would be installed in the area south of the intake canal and in an area north of the project site, east of the discharge canal. The approximate maximum height of the trees would be 65-feet and spread of canopy is 60-feet. The primary purpose of the new landscaping would be to screen views of the project and the existing facilities (PG&E2006a, page 8.13-11)(see **Visual Resources Figure 17** – Photo Simulation Of Proposed Landscaping At Five Years With The Future Removal Of Humboldt Bay Power Plant Units 1, 2, and 3 in the KOP 2 Viewshed). Staff has proposed condition of certification **VIS-5** which provides for the submittal and approval of a landscaping plan.

The photo simulation shows that the proportionate size relationship of the visible project structures to other man-made and natural elements would occupy a moderate portion of the total field-of-view of KOP 2. In addition, the structures would visually appear co-dominate when compared to other elements in the KOP view. The relative visual scale of the structures as simulated in the KOP 2 viewshed is considered to be moderate.

The degree of view disruption introduced by project structures is considered to be moderately low in this viewshed. The 90-foot tall engine hall and exhaust stacks would block an increased amount of sky to that which is currently blocked by structures and vegetation already at this location. Humboldt Bay is not blocked in the viewshed.

The overall visual change caused by the introduction of the proposed project's structures into the KOP 2 viewshed is considered to be moderate as a result of a high visual contrast, moderate visual scale, and moderately low view disruption.

Staff concludes the introduction of project structures would not substantially degrade the existing viewshed at KOP 2. When considering the overall visual sensitivity of the viewing group at KOP 2 (resident-motorist viewer [moderate]), and the moderate overall visual change, the introduction of the proposed project's publicly visible structures would generate a less than significant visual effect at this KOP.

KOP 3 – Humboldt Bay Public Shoreline Trail Looking South

Visual Resources Figure 18 represents the existing view from the public shoreline trail at the discharge canal on the PG&E property approximately 500 feet north of the project site.

Visual Sensitivity

The KOP 3 viewshed includes grass areas, perimeter fencing, a water filled rock lined discharge channel, the 100-foot tall steam turbine-generator structure and its 120-foot tall exhaust stacks, the decommissioned unit 3 white colored brick containment building, a beige colored corrugated tin shed, steel vertical poles of various heights, an 80-foot tall steel lattice structure, overhead wires, a partial view of the two diesel-fueled gas turbine mobile emergency power plants, a gray colored corrugated tin shed and commercial coaches, a paint and sandblasting building, storage building, and switchyard. In the background is the silhouette of Humboldt Hill. The estimated public appeal of the visual quality of the KOP 3 viewshed is considered to be moderately low.

The public shoreline trail lies between the PG&E perimeter fence and Humboldt Bay. The shoreline trail is not developed at this time (**Visual Resources Figure 19** – Landscape Character Photo Of Public Shoreline Trail Along PG&E Property Looking East).

Viewers at this KOP location mainly consist of individuals who are fishing along the rock revetment. Viewers would tend to be directed towards the bay and away from the project. There is no scenic focal point in the viewshed. The 100-foot tall steam boiler turbine generator with its plume emission tends to draw the viewer's eye. The estimated level of viewer concern towards preserving the existing KOP 3 viewshed is considered to be low.

From this KOP, viewers would have an unobstructed view of the project site and the construction laydown area. The project's visibility would be high. The specific number of viewers at this location is unknown to staff. Staff used a conservative estimate of between 11 to 25 individuals for the purposes of this KOP analysis. This number of viewers is considered low. Viewers would experience an extended duration of view (high) of proposed project structures. Overall viewer exposure is considered moderately high.

The overall visual sensitivity of viewers would be considered moderately low from the KOP 3. This visual assessment is the result of a moderately low visual quality, low viewer concern, and a moderately high overall viewer exposure.

Visual Change

VISUAL RESOURCES Figure 20 represents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 3 viewshed. The photo simulation does not show the proposed landscaping.

The project's 90-foot tall engine hall, 25-foot tall radiator, and 100-foot tall cor-ten steel stacks with its metal stack support frame would introduce a contrast to the KOP that is considered high.

The photo simulation of project structures shows that their proportionate size relationship to other man-made and natural elements would be large in the total field-of-view of KOP 3. In addition, the structures would be dominant when compared to other elements in the KOP view. The relative visual scale of the structures as simulated in the viewshed is considered to be high.

A silhouette of Humboldt Hill in the background would be blocked by project structures at this KOP. A portion of the 100-foot tall exhaust stacks would extend above the ridgeline into the sky. The amount of Humboldt Hill and sky blocked from view would be much more than that currently blocked by existing structures. The amount of view blockage introduced by project structures is considered to be moderately high.

The applicant has provided a draft landscape plan. The plan shows that trees would be replaced in areas where removed due to project construction. The landscape plan shows new trees being planted along the north boundary of the PG&E property, east of the discharge canal. The approximate maximum height of the trees would be 65-feet and spread of canopy 60-feet at maturity. Over time, as the project's landscaping matures, the visual impact at KOP 3 would be reduced.

The overall visual change caused by the proposed project's structures is considered to be moderately high as a result of a high visual contrast, high visual scale, and moderately high view disruption.

Staff concludes that the introduction of the project's publicly visible structures would not substantially degrade the existing viewshed at KOP 3. When considering the overall visual sensitivity of the viewing group (moderately low) at KOP 3, and overall visual change of high, the introduction of the project structures would generate a less than significant visual effect at this KOP.

KOP 4 – Loma Avenue on Humboldt Hill Looking Northwest

Visual Resources Figure 21 represents the existing hillside view (100-150 feet elevation) from the north side of Loma Avenue on Humboldt Hill, approximately 3,500 feet south of the project site.

Visual Sensitivity

The view includes a portion of asphalt road, ornamental landscaping and yard items, steel and wood vertical poles, portions of steep pitch roof tops of three single family residences, emergent marsh, Buhne Slough, groupings and scattered canopy trees and shrubs. Also in the view are the 100-foot tall steam boiler turbine-generator structure,

four large off-white colored cylinder fuel tanks, and an expanse of Humboldt Bay. Seen across the bay are the South Spit, and the U.S. Coast Guard Station, Fairhaven Biomass Power Plant, and the Evergreen Pulp Mill located on the Samoa Peninsula (North Spit), a partial view of the city of Euerka, and the Pacific Ocean. The estimated public appeal of the visual quality of the KOP 4 viewshed is considered to be high.

Viewers at this KOP location would mainly consist of residents on Humboldt Hill. Humboldt Hill has several residential neighborhoods. According to the U.S. Census Bureau, in the year 2000 the total population of the census designated Humboldt Hill area was 3,246 (PG&E 2006a, page 8.10-1). The actual number of residences that have a view of the project site is unknown to staff. The residential enclave at this KOP location consists of approximately 40-60 residences. Using 60 residences as the potential number of viewers that may be exposed to a view of power plant structures, this number of viewer exposures would be considered moderately high.

Residential viewers are typically considered to be highly sensitive to modifications of a viewshed. From this KOP, viewers have a relatively unobstructed view of the project site. The visibility of power plant structures at this KOP is considered to be moderately high. The estimated level of viewer concern towards preserving the KOP 4 viewshed is considered to be moderately high. Viewers at this KOP location would be exposed to an extended duration view of the project. Overall exposure for viewers at this KOP is considered to be moderately high.

The overall visual sensitivity for residents would be considered moderately high from the KOP 4 location. This assessment is the result of a high visual quality, moderately high viewer concern, and a moderately high overall viewer exposure.

Visual Change

Visual Resources Figure 22 presents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 4 viewshed.

The view of the 100-foot tall steam boiler turbine-generator structure, four large off-white colored cylinder tanks, and switchyard equipment would become more visible due to the removal of the trees and other vegetation.

Project structures that would be visually unobstructed from KOP 4 include the engine hall, the 100-foot exhaust stacks, the control room/office, fencing, switchyard equipment, and a fuel tank. The contrast introduced by the project's publicly visible structures would be seen but does not attract attention from this KOP. The potential contrast of the structures is considered moderate.

The photo simulation shows that the proportionate size relationship of the visible project structures to other man-made and natural elements would occupy a small portion of the total field-of-view of KOP 4. The structures would visually appear co-dominate when compared to other elements in the KOP view. The relative visual scale of the structures as simulated in the KOP 4 viewshed is considered to be moderately low.

A small portion of a view of Humboldt Bay would be disrupted by the introduction of project structures, specifically the exhaust stacks. The view disruption is considered to be moderately low.

The overall visual change caused by the introduction of project structures into the viewshed is considered to be moderate as a result of a moderate visual contrast, moderately low visual scale, and moderately low view disruption.

Staff concludes that the introduction of project structures would not substantially degrade the existing viewshed at KOP 4. When considering the overall visual sensitivity of the viewing group at KOP 4 (residential viewer [moderately high]), and the moderate overall visual change, the introduction of the proposed project's publicly visible structures would generate a less than significant visual effect at this KOP.

KOP 5 – Spruce Vista Point Looking Southwest

Visual Resources Figure 23 represents the existing view from Spruce Vista Point looking southwest towards the project site approximately 3,000 feet away.

Visual Sensitivity

The view includes a portion of asphalt surfacing and safety railing of Humboldt Hill Road, undulating open grassland terrain with scattered canopy trees, marsh, and northbound and southbound lanes and grass median of U.S. Highway 101. Also in view are shoreline rock revetment, Humboldt Bay, and the distant view of the South Spit. The 100-foot tall steam boiler turbine-generator structure and its 120-foot tall exhaust stacks and decommissioned unit 3 structures are also in view. A lattice tower, vertical poles and a maintenance building are also seen. The estimated public appeal of the visual quality of the KOP 5 viewshed is considered to be moderate.

Viewers at this KOP location would involve individuals who have departed U.S. Highway 101 to see the Humboldt Harbor Historical District landmark (marker) and an elevated open view of Humboldt Bay. The plaque was placed by the California Department of Parks and Recreation in cooperation with the Humboldt County Historical Society in April 10, 1976. The specific number of visitations to this location is unknown by staff. Staff used a conservative estimate of 51-100 persons per day for the purpose of this KOP analysis. This number of viewer exposures to potential power plant structures would be considered moderate.

The estimated level of viewer concern towards preserving the KOP 5 viewshed is considered moderately high. From this KOP, viewers would have an unobstructed view of the project site. The visibility of the proposed power plant at this KOP is high. Viewers at this location would be directed towards reading the inscription on the Humboldt Harbor Historical District marker and taking in the view of the bay. Viewers at this KOP location would be exposed to a short duration view of power plant structures. Overall exposure for viewers at this KOP is considered to be moderate.
The overall visual sensitivity for viewers would be considered moderate from the KOP 4 location. This assessment is the result of a moderate visual quality, moderately high viewer concern, and a moderate overall viewer exposure.

Visual Change

Visual Resources Figure 24 presents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 5 viewshed.

Publicly visible project structures would include the 100-foot tall cor-ten steel exhaust stacks and its metal stack support frame, the 41-foot tall tank, and portions of the 45-foot tall engine hall, and the 25-foot tall radiators. The contrast introduced would be strong from this KOP.

As previously noted, the applicant's landscape plan shows new trees being planted along the north boundary of the PG&E property, east of the discharge canal. The approximate maximum height of the trees would be 65-feet and spread of canopy 60-feet at maturity. Over time, as the project's landscaping matures, the visual impact at KOP 5 would be reduced.

The photo simulation shows that the proportionate size relationship of the visible project structures to other man-made and natural elements would occupy a moderate portion of the total field-of-view of KOP 5. The structures would visually appear co-dominate when compared to other elements in the KOP view. The relative visual scale of the structures as simulated in the KOP 5 viewshed is considered to be moderate.

The view disruption is considered to be low. From this KOP, new power plant structures would block a view of existing power plant structures, trees and a small amount of sky. No view of Humboldt Bay would be disrupted by project structures from this KOP.

The overall visual change caused by the introduction of project structures into the viewshed is considered to be moderate as a result of a high visual contrast, moderately low visual scale, and a low view disruption.

Staff concludes the introduction of project structures would not substantially degrade the existing viewshed at KOP 5. When considering the overall visual sensitivity of the viewing group at KOP 5 (moderate), and the moderate overall visual change, the introduction of the proposed project's publicly visible structures would generate a less than significant visual effect at this KOP.

KOP 6 – South Spit Wildlife Area Looking Across Humboldt Bay

Visual Resources Figure 25 represents the existing view from the South Spit Wildlife Area looking east towards the project site approximately one-mile away.

Visual Sensitivity

The view includes a portion of sand dune with seashore grass, rock revetment and Humboldt Bay. Seen across the bay is the dark silhouette of tree covered high bluff on Buhne Point, and the 100-foot tall steam boiler turbine–generator structure with its two 120-foot tall exhaust stacks. Visually indiscernible structures and vegetation at King Salmon Resort, the Humboldt Bay Forest Products shipping terminal, Fields Landing Humboldt Hill, and Elk River Wildlife Area are in the viewshed. The outline of the coastal hills can be seen. The estimated public appeal of the visual quality of the KOP 6 viewshed is considered to be high.

Viewers at this KOP location would consist of individuals engaged in passive recreational activities such as bird watching, hiking and fishing. The specific number of visitations to this location is unknown by staff. Staff used a conservative estimate of 51-100 persons per day for the purpose of this KOP analysis. This number of viewers is considered moderate.

The estimated level of viewer concern towards preserving the KOP 6 viewshed is considered high. From this KOP, viewers would have a disrupted and distant view of the project site. The visibility of the proposed power plant's structures at this KOP would be moderately low. Viewers at this KOP location would be exposed to an extended duration view of power plant structures. Overall exposure for viewers at this KOP is considered to be moderate.

The overall visual sensitivity for viewers would be considered moderately high from the KOP 6 location. This assessment is the result of a high visual quality, high viewer concern, and a moderate overall viewer exposure.

Visual Change

Visual Resources Figure 26 presents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 6 viewshed.

The publicly visible project structures would involve the 100-foot tall exhaust stacks. The contrast introduced by the project's structures would be seen but does not attract attention (weak) from this KOP. The potential contrast of the structures is considered low.

The photo simulation shows that the proportionate size relationship of the visible project structures to other man-made and natural elements would occupy a very small portion of the total field-of-view of KOP 6. The structures would visually appear subordinate when compared to other elements in the KOP view. The relative visual scale of the structures as simulated in the KOP 6 viewshed is considered low.

The view disruption is considered low. The project's exhaust stacks would be contained below the ridgeline silhouette of the coastal hills. The project's exhaust stacks as seen from this KOP would disrupt a very small portion of the view of the coastal hills.

The overall visual change caused by the introduction of project structures into the viewshed is considered to be low as a result of a low contrast, low visual scale, and a low view disruption.

Staff concludes the introduction of project structures would not substantially degrade the existing viewshed at KOP 6. When considering the overall visual sensitivity of the viewing group at KOP 6 (moderately high), and the low overall visual change, the introduction of the proposed project's publicly visible structures would generate a less than significant visual effect at this KOP.

LINEARS

<u>Overhead Transmission Lines</u> -The HBRP would interconnect six reciprocating engines to the 60-kV bus at the Humboldt Bay Power Plant Substation via two 60-kV generator

tie lines. An additional four reciprocating engines would connect to the Humboldt Bay-Humboldt 115-kV line via a 115-kV tie line. Concurrently with the completion of the HBRP, the two existing mobile electric power plants currently connected to the Humboldt Bay-Humboldt 115-kV line would be disconnected and retired. The existing power plant steam turbines connected to the 60-kV line would be disconnected as well. The two existing circuit breakers at the 60-kV interconnection points and the one existing circuit breaker at the 115-kV interconnection point would be replaced as part of the project. The proposed interconnection would include three transmission lines that would all be located within the PG&E property. One of the lines would be a 115-kV tie line that would be less than 700 feet long. The remaining two lines would be 60-kV tie lines that would be less than 500 feet long. All three tie lines would be interconnected to the high sides of their respective generator step-up transformers from take-off structures near the generator switchyard to existing structures in the Humboldt Bay Power Plant Substation. Each tie line would require the installation of one new steel pole with bypass switches and would be composed of only two spans (PG&E2007a, pages 5-1-11).

The non-reflective gray colored steel poles to be used would introduce a moderately low contrast among the dark colored vegetation and the existing structures on the PG&E property. The degree of view blockage by the steel poles and overhead wires would be low. The construction of the onsite overhead transmission lines would introduce a less than significant visual disturbance.

Pipelines -The project's underground pipelines are to interconnect to existing gas, sewer, and water pipelines that already serve the PG&E property. After construction, the ground surfaces would be restored as required by condition of certification **VIS-2**. With the burying of the project's pipelines and resurfacing a visual impact would not be introduced.

PUBLICLY VISIBLE WATER VAPOR PLUMES

The HBRP would be a dry-cooled facility and does not involve the use of a wet cooling tower, which is the main generator of visible water vapor plumes at power plants. In addition, as a result of the very high exhaust temperature (minimum 670 degrees Fahrenheit) of the proposed project's lean burn[2] engines and generators, under normal weather conditions there is no potential for visible water vapor plumes to form above the exhaust stacks. This conclusion is based on the applicant's proposed facility design at operation.

D. LIGHT OR GLARE

"Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?"

The proposed project during operation has the potential to introduce light offsite to surrounding properties, and up-lighting to the nighttime sky. If bright exterior lights were not hooded, and lights not directed onsite they could introduce significant light or glare to the vicinity.

[2] Lean burn pertains to a type of engine that runs very fuel lean so that the moisture content in the exhaust is considerably lower than typical internal combustion engine (less than half).

Nighttime lighting that that takes place on the PG&E property at the current time is for personnel safety and security purposes. Lighting includes pole-mounted lighting structures and lighting at building entrances. The single most visible light source on the property is the 100-foot-tall steam boiler turbine generator structure. Lighting on the structure takes place on all four stories.

The applicant states the HBRP would introduce new nighttime lighting to the property due to safety and security needs. Lighting would be directed onsite; and would be shielded from public view, and non-glare fixtures and use of switches, sensors, and timers to minimize the time that lights not needed for safety and security are on will be specified.

Staff believes that the applicant's description of their proposed light mitigation would reduce offsite light impacts to the area; however, the description does not specifically describe what the mitigations may consist of during the project's operation. Staff has proposed condition of certification **VIS-4** which requires submittal and approval of a lighting control plan. With the effective implementation of the proposed light mitigation measures, staff believes that the HBRP would not result in a substantial new source of light that could adversely affect existing nighttime views.

The photo simulations of the completed power plant provided by the applicant show the use of a surface treatment on major project structures and buildings consisting of a neutral grey color and flat finish, and rust color stacks. All new structures including permanent equipment and fencing will be treated or painted with a non-reflective finish so as to reduce potential glare effects (PG&E2007, page 8.13-19). With effective implementation of the applicant's proposed surface treatment, project structures would not be a source of substantial glare that could adversely affect daytime views. Staff has proposed condition of certification **VIS-3** which requires submittal of a surface treatment plan for power plant structures and the electric transmission line poles to ensure this conclusion.

CUMULATIVE IMPACTS AND MITIGATION

As defined in Section 15355 of the CEQA Guidelines (California Code of Regulations, Title 14), a cumulative impact is created as a result of the combination of the project under consideration together with other existing or reasonably foreseeable projects causing related impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. In other words, while any one project may not create a significant impact to visual resources, the combination of the new project with all existing or planned projects in an area may create significant impacts. A significant cumulative impact would depend on the degree to which (1) the viewshed is altered; (2) views of a scenic resource is impaired; or (3) visual quality is diminished.

A development within one-mile of the HBRP site is the Humboldt Bay Power Plant "Independent Spent Fuel Storage Installation" (ISFSI). The ISFI project has been approved by the Nuclear Regulatory Commission (NRC) and the California Coastal Commission. The ISFSI would store spent nuclear fuel and other materials from the

Humboldt Bay Power Plant unit 3 in a dry cask storage constructed on the PG&E property. PG&E is evaluating a plan that would have all spent fuel in dry cask storage by 2008. Although Humboldt Bay Power Plant's current license expires in 2015, PG&E is evaluating a plan that would have the plant dismantled, the Part 50 license terminated and site restoration completed in the 2009-2011 time frame (NRC2007). The dry cast is to be built in the open area on the bay side of the 100-foot tall turbine-generator structure, approximately 600 feet from the HBRP site.

It is foreseeable that the structures and associated equipment used by the Humboldt Bay Power Plant would be demolished after the HBRP is operating. The demolition of unit 3 is not a consequence of the HBRP project and is entirely separate from it. The NRC would oversee the demolition process. It is expected that the HBRP would be in operation at the time that demolition of unit 3 begins, but the final schedule for unit 3 demolition is not certain at this time (PG&E2007 page 2-4).

While project-related nighttime light and daytime glare impacts on the project site would be mitigated to a level that would be less than significant, existing light and glare levels in the vicinity of the project would increase cumulatively as a result of the project and, existing and planned projects temporarily. Upon commercial operation of the HBRP, lighting at the Humboldt Bay Power Plant would be reduced as a result of its operational shutdown.

Light and glare impacts generated by these projects are not anticipated to be cumulatively considerable with the effective implementation of the applicable requirements of the Humboldt County Government Code, the Nuclear Regulatory Commission and the California Energy Commission.

The Humboldt County Redevelopment Plan Environmental Impact Report (EIR) is undergoing public review. The Redevelopment Plan EIR identifies several redevelopment sub-areas for Humboldt County: Orick, Willow Creek, Glendale, Manila, Samoa, Fairhaven, Fields Landing, and Alton. The Fields Landing subarea is within 1 mile of the project site. The proposed project for Fields Landing involves rehabilitating a main drainage line and two tide gates at the C Street and Railroad Avenue. These improvements would improve drainage and prevent localized flooding (PG&E2007, page 8.6-15). The rehabilitation of the main drainage line in Fields Landing is not within the viewsheds of KOP 1 through 6.

The introduction of the projects to the KOP 1-6 viewsheds would generate a less than significant cumulative visual effect specific to aesthetics, or preservation and protection of sensitive visual resources.

Staff has reviewed Census 2000 information (maps) which shows no minority population greater than 50% within a six-mile radius of the proposed power plant (see the **Socioeconomics** section of this PSA, **Socioeconomics Figure 1**). The proposed project would not introduce a visual resources related environmental justice issue.

Staff has determined that all significant direct or cumulative impacts specific to aesthetics, or the preservation and protection of sensitive visual resources resulting from the construction or operation of the project would be mitigated.

COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Visual Resources Table 3 provides an analysis of the applicable LORS pertaining to aesthetics, or preservation and protection of sensitive visual resources relevant to the proposed project. Conditions of certification are proposed to make the project conform to a LORS where appropriate.

VISUAL RESOURCES Table 3
Proposed Project's Consistency with
Local LORS Applicable to Visual Resources

LORS		Consistency Determination	Basis for Consistency
Source	**Policy and Strategy Descriptions**		
State			
California Coastal Act of 1976 **Section 30251 – Scenic and Visual Qualities**	The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.		The HBRP is located within 800 feet of the high tide line of the sea, and is therefore subject to the California Coastal Act. Humboldt County has an approved Local Coastal Program (LCP) for the King Salmon area and guidelines for visual resources specific to the site are found in the Humboldt County Local Coastal Program. Notwithstanding the LCP, however, the project site lies within the retained jurisdiction of the California Coastal Commission (CCC) because of its proximity to historical coastal wetlands. Applications for development permits in this area are therefore under the jurisdiction of the CCC rather than Humboldt County. The CCC, however, takes policies described in the LCP into consideration when conducting its review of development permit applications in this portion of the coastal zone (PG&E 2007b). See Humboldt County Local Coastal Program below.

Local			
Humboldt County General Plan **Vol. II Humboldt Bay Area Plan of the Humboldt County Local Coastal Program**	This area plan represents one of six county coastal planning areas. It identifies land uses and standards by which development will be evaluated within the Coastal Zone. The plan identifies uses and provides standards adopted by the county of Humboldt, and certified by the California Coastal Commission that are in conformance and satisfy the polices and requirements for coastal land use contained in the California Coastal Act 1976.		
Coastal-Dependent Development /Industrial (MC)	Purpose is to protect and reserve parcels on or near the sea for industrial uses dependent on, or related to, the harbor. Coastal-dependent industrial facilities are encouraged to locate or expand within existing sites and be permitted reasonable long-term growth where consistent with this division. 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.	YES AS PROPOSED	The HBRP involves the building of a facility that would use 10-natural gas fired Wartsila engine-generators producing 163 MW on the 143-acre PG&E property and replace the existing 50-year old Humboldt Bay Power Plant steam boiler turbine generator units 1 and 2 which produce 105 MW. Units 1 and 2, and the two mobile emergency power plants would cease operation after the HBRP becomes commercially operational and are to be eventually removed from the property.
Visual Resource Protection (section 3.40)	30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.		

Development Policies: 1. *Physical Scale and Visual Compatibility* No development shall be approved that is not compatible with the physical scale of development as designated in the Area Plan and zoning for the subject parcel; and the following criteria shall be determinative in establishing the compatibility of the proposed development: a. For proposed development that is not the principle permitted use, or that is outside an urban limit and for other than detached residential, agricultural uses, or forestry activities regulated by the California Division of Forestry (CDF), that the proposed development compatible with the principle permitted use, and, in addition is either: (1) No greater in height or bulk than is permitted for the principle use, and is otherwise compatible with the styles and visible material of existing development or land forms in the immediate neighborhood, where such development is visible from the nearest public road. (2) Where the project cannot feasibly conform to paragraph 1, and no other more feasible location exists, that the exterior design, and landscaping be subject to a public hearing, and shall be approved only when: (a) There is no less environmentally damaging feasible alternative location. (b) The proposed exterior design and landscaping are sufficient to assure compatibility with the physical scale established by surrounding development.	YES AS PROPOSED	1. Physical Scale and Visual Compatibility -The Industrial/Coastal-Dependent (MC) zone district provides for industrial use types including heavy industrial, limited to alteration, improvement, and relocation of existing facilities. The proposed development is a conditional use allowed within the MC zone district. The project would be located outside of an urban limit boundary. The HBRP would be of a smaller height than the existing power plant. A comparison of the most publicly visible structures between the Humboldt Bay Power Plant (HBPP) and HBRP include the following; the HBPP exhaust stacks are 120 feet tall, the proposed HBRP exhaust stacks 100 feet. The HBPP steam boiler turbine structure is 100 feet tall. The HBRP engine hall is approximately 45 feet tall. The HBRP site is already highly disturb by existing HBPP structures that are to be removed to allow for the proposed project. No disturbance of natural contours would occur on the project site. The HBRP would introduce structures less visually intrusive to the immediate neighborhood.
2. Protecting of Natural Landforms and Features Natural contours, including slope, visible contours of hilltops and tree lines, bluffs and rock outcroppings, shall suffer the minimum feasible disturbance compatible with development of any permitted use, and the following standards shall at a minimum secure this objective: a. Under any permitted alteration of natural landforms during construction, mineral extraction or other approved development, the topography shall be restored to as close to natural contours as possible, and the area planted with attractive vegetation common to the region. b. In permitted development, land form alteration for access roads and public utilities shall be minimized by running hillside roads and utility corridors along natural contours where feasible, and the optional waiving on minimum street width requirements, where proposed development densities or use of one-way circulation patterns make this consistent with public safety, in order that necessary hillside roads may be as narrow as possible.	YES AS PROPOSED	The project conforms to paragraph 1. In addition, there is no less environmentally damaging feasible alternative location for the construction of the HBRP. The HBRP's photo simulations and draft landscaping plan show that the exterior design and landscaping would be compatible in physical scale with established surrounding development. 2. Protecting of Natural Landforms and Features -The preparation of the building pad for the HBRP does not involve modifications to the described natural landforms and features on the property. The temporary access road, the primary parking and laydown areas, and a portion of the remote parking area are to be restored after completion of the construction of the HBRP.
3. Coastal Scenic Area In the Coastal Scenic Area designated in the Area Plan Map (Indianola area), it is the intent of these regulations that all developments visible from Highway 101 be	NOT APPLICABLE	Landscaping removed during project construction is to be replaced, and increased to exceed that which is currently on the PG&E

subordinate to the character of the designated area, and the following uniform standards shall apply to all development within said area, in addition to other applicable policies of this plan: a. New industrial and public facility development shall be limited to: (1) Temporary storage of materials and equipment for the purpose of road and utility repair or improvement provided that this is necessary to the repair or improvement, and no feasible site for storage of equipment of material is available outside such area. (2) Underground utilities, telephone lines, and above-ground lines consistent with Sections 3.14 and 3.26 (Industrial/Electrical Transmission Lines). b. All permitted development shall be subject to the following standards for siting and design except for structures integral to agricultural use and timberland management subject to CDF requirements for special treatment areas. (1) Siding and roofing materials shall not be of reflective materials, excepting glass and corrugated roofing. Solar collectors for on-site use shall be permitted and exempt from this standard. (2) The highest point of a structure shall not exceed 30' vertically measured from the highest point of the foundation, nor 40' from the lowest point of the foundation. (3) Exterior lighting shall be shielded so that it is not directed beyond the boundaries of the property. (4) Vegetation clearing for new development shall be minimized. New development on ridgelines shall be sited adjacent to existing major vegetation, prohibiting removal of tree masses which might destroy the ridgeline silhouette, and limiting the height of structures so that they maintain present ridgeline silhouettes. (5) Timber harvests and activities related to timber management exempt from CDF regulations shall conform to timber harvesting visual standards for Special Treatment Areas.		property. No hillside roads are being constructed. <u>3. Coastal Scenic Area</u> -The project site is not within the Indianola area which is located northeast of the city of Euerka along Arcata Bay on the east side of U.S. Highway 101. This Indianola area is approximately 9 miles from the project site.
4. Coastal View Areas For view areas as designated in the Area Plan, it is the intent of these regulations that no development shall block coastal views to the detriment of the public; and the following uniform standards and conditions shall apply to all development other than agricultural development and timberland management subject to CDF regulations for special treatment areas in said areas, and to specified developments in Coastal Scenic Areas, in addition to standards identified in the Area Plans:		<u>4. Coastal View Areas</u> – The HBRP would not block a view of the Pacific Ocean. The top portion of the project's engine hall and its exhaust stacks would block a small view of Humboldt Bay as seen from KOP 4 (Loma Avenue) location.
a. No off-premise signs shall be permitted; and on-premise signs to a total area of 40 square feet shall be permitted.	YES AS CONDITIONED	No off-premise signs are being proposed by the applicant. However, condition of certification **VIS-6** would ensure compliance with the county provision. (a)
b. Where the principle permitted use is residential a development may be approved subject to the	NOT APPLICABLE	The principle permitted use is not residential. (b)

standards of this document only on the following conditions: (1) The development is not visible from the road or would not block any part of the view; or (2) Where the development cannot be sited to prevent blocking any part of the view, that its height does not exceed 20 feet nor its width, perpendicular to the line of view, exceed 40 feet, and that it is set back from the road at least 60 feet and from property lines vertical to the road at least 30 feet; and c. Where the principle permitted use is commercial or industrial, the proposal shall include a detailed plan for exterior design of all structures and signs, and this plan shall be the subject of public hearings at which the following findings shall be made: (1) That the development does not block any part of the view to the coast or coastal waterways as viewed from public roads in a vehicle. (2) That the exterior design, lighting and landscaping combine to render the overall appearance compatible with the natural setting as seen from the road. (3) That no development, other than landscaping, signs, utilities, wells, fences, and a driveway for access to the public road where required, be located within 50 feet of the public road. (4) That all feasible steps have been taken to minimize the visibility of parking areas from the public road. (5) Exterior lighting shall be shielded so that it is not directed beyond the boundaries of the parcel. d. Uses other than those defined in a through c of this section including those proposed by public agencies, shall be subject to the requirements of Section c in so far as these are relevant. e. Where feasible, new and existing utilities should be underground.	YES AS CONDITIONED	The requested use is industrial. The Application For Certification (AFC) filed with the California Energy Commission included elevation plans (see **Visual Resources Figures 4 and 5**). No signs have been proposed for the project. The California Energy Commission's rules of Practice and Procedure & Power Plant Site Certification Regulations present the procedural requirements for the processing of a power plant application. The requirements include public notification and outreach for the staff assessments, public workshops, and evidentiary hearings. (c) The project would be seen from north and south bound U.S. Highway 101. Photo simulations of the project show that it would not block a view of the coast or coastal waterway from the highway. A small portion of the view of Humboldt Bay would be blocked by project structures from the Loma Avenue KOP. No coast or coastal waterway is shown in the viewshed of the King Salmon Avenue KOP. (1) The exterior design of the project as shown in the KOP photo simulations and elevation drawings, the described lighting scheme for the project site and the draft landscaping plan for the PG&E property if effectively implemented would render the overall appearance of the HBRP compatible with the industrial use designation and the natural setting. All areas not required for permanent easements and development would be restored to preconstruction conditions, including topography, hydrology, topsoil, and, if appropriate, revegetation that focuses on erosion control. (2) Structural development would

		occur on the HBRP site. The site is located approximately 800 feet from U.S. Highway 101, and 1,500 feet from King Salmon Avenue. (3) The existing permanent employee parking lot serving the Humboldt Bay Power Plant would also serve the HBRP at operation. The existing employee parking lot is not noticeable from U.S. Highway 101, King Salmon Avenue, or Loma Avenue. The temporary primary construction parking area is located about 600 feet from King Salmon Avenue. This distance provides a softening of the view of it from King Salmon Avenue. The remote parking area would be noticeable during the peak construction period when vehicles are parked on it. When the project is completed, the temporary primary parking area is to be restored. The eastern half of the remote parking area would be restored as wetland. The western half would remain as an area for future parking use during demolition of the HBPP. Staff has recommended condition of certification **VIS-2** to ensure restoration. (4) Exterior lighting on the HBRP site would be shielded and directed downward so that light is not directed beyond the boundaries of the property as required by condition of certification **VIS-4**. (5) The proposed project is industrial development that is identified as a conditional use allowed within the MC zone district. It is subject to the requirements of section c. (d) The project's natural gas, water, sanitary sewer pipelines are to be buried. (e)
5. Highway 101 Corridor The Humboldt County Board of Supervisors shall initiate the preparation of a Scenic Route Study pursuant to the adopted Scenic Highways Element of the Humboldt County General Plan for the portion of Highway 101 between Eureka and Arcata and that portion south of Fields Landing, inclusively.	NOT APPLICABLE	<u>5. Highway 101 Corridor</u> -At the present time, U.S. Highway 101 has not been designated as a "Scenic Highway" by the county or the state.
6. New Off-Site Signs No new off-site signs shall be permitted in rural areas except for directional signs that indicate directions to major recreational facilities, hospitals, and other	YES AS PROPOSED	<u>6. New Off-Site Signs</u> -The proposed project does not involve installing new off-site signs in a rural area.

emergency facilities. *7. Public Lands Resource Buffer* The intent of this policy is to guide public agencies through a step-by-step procedure in both the acquisition of land and in the generation of management or development plans for existing public lands. Where necessary, buffer areas around public lands to mitigate adjacent land uses, including buffers necessary for habitat and resources protection, shall be identified and implemented according to the following policy: a. Where feasible, buffer areas shall be internalized within the boundary of the public lands. This applies to both future proposed acquisitions and to existing public lands where the public agency involved sees the need for buffers from adjacent uses or activities. b. Where adequate buffers cannot be feasibly internalized during the acquisition process or, where applicable in the development of management plans for the public lands: (1) activities requiring buffering are to be identified, (2) the location, width, and nature of the buffer are to be determined, and (3) any proposed restrictions affecting adjacent privately owned properties shall be discussed with the affected property owner and Humboldt County. (4) Pursuant to this meeting a mutual agreement shall be made between the public agency and the affected property owner regarding the implementation of the identified buffer. Techniques to be considered for implementation of a buffer include, but are not limited to: (a) alternatives to full acquisition (b) purchase of easements (c) purchase of development rights (d) purchase of major vegetation (e) full acquisition of buffer areas (5) Eminent domain proceedings shall be initiated by the public agency seeking a resource buffer only after the opportunity for mutual agreement, outlined above, has been exhausted.	NOT APPLICABLE	7. Public Lands Resource Buffer -The project does not involve a public agency's acquisition of land, or the generation of management or development plans for existing public lands.
8. Natural Features Significant natural features within the Humboldt Bay Planning Area include the following: • Arcata Bottoms, • Bottomlands between Eureka & Arcata, • South Spit, • Table Bluff, • Dune Forests along the North Spit,	NOT APPLICABLE	8. Natural Features -The project site is located on Buhne Point. Buhne Point is not identified as a feature that requires specific natural feature protection.

• Bottomland along South Bay, and • Ryan and Freshwater Slough. These features require specific protection for their retention.			
Humboldt County Zoning Regulations - Chapter 3 Regulations Inside the Coastal Zone			
Industrial/Coastal-Dependent (MC) (section 313-3.4) - Industrial Use Type	Coastal-related subject to the Coastal-Dependent Industrial Regulations; heavy industrial, limited to alteration, improvement, and relocation of existing facilities. (see also Industrial Performance Standards, section 313-103.1 below)		
• Minimum Yard Setbacks	Minimum Front Yard: None Minimum Side Yard: None Minimum Rear Yard: None	YES AS PROPOSED	As depicted on the site plan, the project would comply with the yard area requirements for the MC zone district as stipulated by the Development Standard Combining Zone regulations.
• Maximum Ground Coverage	None	YES AS PROPOSED	Project is consistent.
• Maximum Structure Height	Fifty feet plus one foot for each foot of front yard setback over fifty feet to a maximum of seventy-five feet.	NOT CONSISTENT	The HBRP's ten exhaust stacks and three transmission poles would each exceed 75 feet in height. The exhaust stacks would each be 100 feet tall. The transmission poles would each be 78 feet tall. See section 99.1.1.1 "Exception to Height Standards" below.
Section 99.1.1.1	Exceptions to Height Standards. Any structure, building or any architectural feature of a building may be erected to a height greater than the maximum height limits in this division provided that a Special Permit is first obtained. Such excess height, when allowed, will normally be conditioned upon proportional increases in the yards required. (Former Section CZ#A314-15(A)(1))	YES, IF SPECIAL PERMIT IS APPROVED	The project's ten 100-foot tall exhaust stacks and three 78-foot tall transmission poles are necessary to the commercial operation of the power plant and should be excused from the MC zone district height limitation of 75-feet if the project is licensed. This stack height is necessary for adequate dispersion of stack emissions for air quality and public health reasons. Applicant has not obtained a Special Permit from the county of

			Humboldt allowing an exceedance to the height limitation for the exhaust stacks and transmission poles. See section 312-17- Special Permit below.
Section 312-17 Special Permit	Unless waived by State law, the Humboldt County Hearing Officer may approve or conditionally approve an application for a Special Permit, Use Permit, Coastal Development Permit, or Planned Unit Development Permit only if all of the following findings, in addition to any applicable findings in Sections 312-18 through 312-49, Supplemental Findings, are made: (Former Section INL#317-36, 317-40.7; CZ#A315-14; Ord. 946, Sec. 4, 10/2/73; Ord. 1726, Sec. 4, 3/4/86; Amended by Ord. 2214, 6/6/00)		The California Energy Commission has exclusive permitting authority over the project and is, thus, an "appropriate approving authority" to perform the required findings for a "Special Permit" to allow exceedance of the height limitation for necessary appurtenances, upon making the required county findings (see below).
- Required Findings For All Permits	17.1.1 The proposed development is in conformance with the County General Plan; (Former Section INL#317-36(c), 317-40.7(3); CZ#A315-14(A); Ord. 946, Sec. 4, 10/2/73; Ord. 1726, Sec. 4,3/4/86) 17.1.2 The proposed development is consistent with the purposes of the existing zone in which the site is located, or when processed in conjunction with a zone reclassification, is consistent with the purposes of the proposed zone; (Former Section INL#317-36(a), 317-40.7(1); CZ#A315-14(B)) 17.1.3 The proposed development conforms with all applicable standards and requirements of these regulations; and (Former Section CZ#A315-14(C)) 17.1.4 The proposed development and conditions under which it may be operated or maintained will not be detrimental to the public health, safety, or welfare or materially injurious to properties or improvements in the vicinity. (Former Section INL#317-36(b), 317-40.7(2); CZ#A315-14(D)) 17.1.5 The proposed development does not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in	YES YES YES YES NOT APPLICABLE	The project site is designated Coastal-Dependent Development/ Industrial. This designation allows electrical generating facilities. The project site is zoned Industrial/Coastal-Dependent which allows heavy industrial type uses, limited to alteration, improvement, and a relocation of existing facilities. The proposed HBRP at commercial operation would allow for the shut down of the 50-year old HBPP and its eventual demolition and removal from the property. The project would comply or conform accordingly to the identified county visual resource LORS. However, the making of this finding is not limited to the "visual resources" technical section of the PSA, but applies to multiple technical sections within the PSA and is better addressed under those specific sections. This being said, the purpose of the Energy Commission's conditions of certification on a project is to prevent adverse affects that a project may generate to the public health, safety and welfare. Conditions of certification are basically comprised of two components; to mitigate potentially significant impacts identified by CEQA and to ensure conformance with state or local LORS. For this project, Energy Commission staff reviewed county LORS for applicability to the project and proposed conditions of certification

	determining compliance with housing element law (the mid point of the density range specified in the plan designation) unless the following written findings are made supported by substantial evidence: - 17.1.5.1 The reduction is consistent with the adopted general plan, including the housing element, and - 17.1.5.2 The remaining sites identified in the housing element are adequate to accommodate the County's share of the regional housing need pursuant to Section 65584 of the Government Code, and - 17.1.5.3 The property contains insurmountable physical or environmental limitations and clustering of residential units on the developable portions has been maximized.		on the project to make the project comply or conform accordingly to the identified county LORS. The building of the proposed HBRP does not involve a reduction of residential density for any parcel below that utilized by the Department of Housing and Community Development.
Section 313-103.1 Industrial Performance Standards	The purpose of these regulations is to establish minimum standards for the operation of industrial development in Humboldt County.		
Standards for Industrial Development that Impact Nonresidential Zones	103.1.4.1 Noise. Mitigation measures shall be required where necessary to insure that noise generated by industrial operations does not exceed 70 dB (A) anywhere off the site. (Former Section CZ#A314-18(D)(1)) 103.1.4.2 Lights. No restrictions. (Former Section CZ#A314-18(D)(2)) 103.1.4.3 Traffic. No restrictions. (Former Section CZ#A314-18(D)(3)) 103.1.4.4 Vibrations. No perceptible vibrations shall be permitted to interfere with adjacent land uses. (Former Section CZ#A314-18(D)(4)) 103.1.4.5 Electronic Interference. No visual or audible interference	SEE NOISE & VIBRATION SECTION OF PSA YES AS CONDITIONED BY VISUAL RESOURCES SECTION SEE TRAFFIC SECTION OF PSA SEE NOISE & VIBRATION SECTION OF PSA SEE FACILITY	The making of this finding is not limited to the “visual resources” technical section of the PSA, but applies to multiple technical sections within the PSA and is better addressed under those specific sections. The purpose of the Energy Commission’s conditions of certification on a project is to prevent adverse affects that a project may generate to the public health, safety and welfare. Conditions of certification are basically comprised of two components; mitigation measures required by CEQA and state or local LORS. For this project, Energy Commission staff reviewed county LORS for applicability to the project and proposed conditions of certification on the project to make the project comply or conform accordingly to the identified county LORS. The project owner has proposed measures to control light trespass beyond the boundaries of the PG&E property. Directional light fixtures and shielding of lighting to reduce light scatter and glare are to

	of radio or television reception by operations shall be permitted. (Former Section CZ#A314-18(D)(5)) 103.1.4.6 All manufacturing and fabricating areas shall be enclosed in buildings. (Former Section CZ#A314-18(D)(6))	DESIGN SECTION YES AS PROPOSED	be used. Condition of certification **VIS-4** would ensure compliance with this standard. The project would generate electricity using ten natural gas fired Wartsila reciprocating engine-generator sets and other equipment housed within an engine hall.

NOTEWORTHY PUBLIC BENEFITS

Upon commercial operation of the HBRP, the Humboldt Bay Power Plant steam boiler turbine-generation units 1 and 2 would cease operation, resulting in the elimination of visible plume emissions and a reduction in the use of exterior lighting.

The HBRP would result in the planting of additional landscaping to that presently on the PG&E property and the restoration of several wetland areas.

Although the HBRP would not directly result in the demolition and removal of structures associated with the 50-year old Humboldt Bay Power Plant, the HBRP would help towards its removal from the PG&E property.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

No agency or public comments pertaining to visual resources have been received.

CONCLUSIONS

The visual analysis focused on two main issues; (1) would construction and operation of the project cause an aesthetic impact under CEQA; and (2) would the project comply with applicable local LORS pertaining to aesthetics, or preservation and protection of sensitive visual resources.

1. The project is to be constructed on a 143-acre property in the “Industrial/Coastal-Dependent” zone district within unincorporated Humboldt County. Land uses in the area are a mixture of residential, recreational, commercial and industrial.

2. The project would not have a substantial adverse effect on an identified scenic vista or a scenic resource from the selected key observation points.

3. The project site does not have frontage on, or traverse a segment of a road recognized as a National Scenic Byway or All American Road, or a State Scenic Highway.

4. The project would generate a less than significant visual impact to the viewsheds at the selected key observations points with the effective implementation of the recommended conditions of certification.

5. The project would not substantially degrade the existing visual character or quality of the site and its surroundings with the effective implementation of the conditions of certification.

6. The project would generate a less than significant new source of light or glare to nighttime or daytime views with the effective implementation of the conditions of certification.

7. There would be no publicly visible water vapor plumes emitted by the project at operation during normal weather conditions based on the applicant's proposed facility design.

8. The project's publicly visible structures would not be seen by an identified minority population of greater than 50%. Therefore, the proposed project does not introduce a significant visual resource related environmental justice issue.

9. With the effective implementation of the landscaping and lighting design/construction measures that the project owner has agreed to, and staff's recommended visual resource conditions of certification, the construction and operation of the project would not contribute significantly to a cumulative visual impact to adjacent land uses.

10. Staff made a scenic and visual quality consistency determination for the project on the behalf of the California Coastal Commission. Staff determined that the project would be in conformance with Section 30251 – Scenic and Visual Qualities of the California Coastal Act of 1975, using the required development policies for Visual Resource Protection found in the certified Humboldt County General Plan, Volume II Humboldt Bay Area Plan of the Humboldt County Local Coastal Program, dated April 1995. The development policies are presented in **Visual Resources Table 2** under Visual Resource Protection.

11. The "Industrial/Coastal-Dependent" zone district has a height limitation of 75-feet for structures. The project proposes ten 100-foot tall exhaust stacks and three 78-foot tall transmission poles. The project owner has not obtained a "Special Permit" from the county of Humboldt allowing an exceedance to the height limitation for the exhaust stacks and transmission poles. The California Energy Commission has exclusive permitting authority over the project and is, thus, an "appropriate approving authority" to perform the required county findings for the granting of a Special Permit allowing the height exceedance. The required county findings are presented in **Visual Resources Table 2** under Section 312-17 Special Permit.

12. With the adoption of the Section 312-17 findings granting a Special Permit, the project would comply with all applicable laws, ordinances, regulations, and standards pertaining to aesthetics, or preservation and protection of sensitive visual resources.

The construction and operation of the Humboldt Bay Repowering Project as proposed, with the effective implementation of the applicant's proposed design/construction measures and staff's recommended conditions of certification (below) would ensure that visual resource impacts generated by the project are less than significant, and ensure

that the project complies with all applicable LORS pertaining to aesthetics, or preservation and protection of sensitive visual resources.

PROPOSED CONDITIONS OF CERTIFCATION

Construction Lighting

VIS-1 The project owner shall ensure that lighting for construction of the power plant is used in a manner that minimizes potential night lighting impacts, as follows:

a) All lighting shall be of minimum necessary brightness consistent with worker safety and security;

b) All fixed position lighting shall be shielded/hooded, and directed downward and toward the area to be illuminated to prevent direct illumination of the night sky and direct light trespass (direct light extending outside the boundaries of the power plant site or the site of construction of ancillary facilities, including any security related boundaries);

c) Wherever feasible and safe and not needed for security, lighting shall be kept off when not in use; and

d) If the project owner receives a complaint about construction lighting, the project owner shall notify the Compliance Project Manager (CPM) and shall use the complaint resolution form shown in the General Conditions section of the Compliance Plan to record each lighting complaint and to document the resolution of that complaint. The project owner shall provide a copy of each complaint form to the CPM.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify the CPM that the lighting is ready for inspection.

If the CPM notifies the project owner that modifications to the lighting are needed to minimize impacts, within 15 days of receiving that notification the project owner shall implement the necessary modifications and notify the CPM that the modifications have been completed.

Within 48 hours of receiving a lighting complaint, the project owner shall provide to the CPM a) a report of the complaint b) a proposal to resolve the complaint, and c) a schedule for implementation of the proposal. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. The project owner shall provide a copy of the completed complaint resolution form to the CPM in the next Monthly Compliance Report.

Surface Restoration

VIS-2 The project owner shall remove all evidence of construction activities, and shall restore the ground surface to the original condition or better condition, including the replacement of any vegetation or paving removed during construction where project development does not preclude this. The project owner shall submit to the CPM for review and approval a surface restoration plan the proper implementation of which will satisfy these requirements. The

project owner shall complete surface restoration within 60 days after the start of commercial operation. If the identified ground surface area has been specifically included in an approved biological resources mitigation plan by the California Energy Commission the timeframe specified in the mitigation plan for completion of restoration of the ground surface area shall apply.

Verification: At least 60 days prior to the start of commercial operation, the project owner shall submit the surface restoration plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the surface restoration plan are needed, within 30 days of receiving that notification the project owner shall submit to the CPM a plan with the specified revisions.

The project owner shall complete surface restoration within 60 days after the start of commercial operation unless the timeframe is specific otherwise in a biological resources mitigation plan approved by the California Energy Commission. The project owner shall notify the CPM within seven days after completion of surface restoration that the restoration is ready for inspection.

Surface Treatment of Project Structures and Buildings

VIS-3 The project owner shall color and finish the surfaces of all project structures and buildings visible to the public to ensure that they: (1) minimize visual intrusion and contrast by blending with the landscape; (2) minimize glare; and (3) comply with local design policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

The project owner shall submit a surface treatment plan to the CPM for review and approval. The treatment plan shall include:

a) A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;

b) A list of each major project structure, building, tank, pipe, and wall; transmission line towers and/or poles; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;

c) One set of color brochures or color chips showing each proposed color and finish;

d) One set of 11” x 17” color photo simulations at life size scale of the proposed treatment for project structures, including structures treated during manufacture at the least from KOP 1, KOP 2, and KOP 3 (**Visual Resources Figures 13, 15, and 18**);

e) A specific schedule for completing the treatment; and

f) A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not request vendor treatment of any buildings or structures during their manufacture, or perform final field treatment on any buildings or structures, until the project owner has received treatment plan approval by the CPM.

Verification: At least 45 days prior to specifying vendor color(s) and finish(es) for structures or buildings to be surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval, and simultaneously to the Humboldt Community Services Department, Planning Division and the California Coastal Commission for written comment. The project owner shall allow the county and coastal commission at least 30 days to provide comment on the submitted surface treatment plan.

The project owner shall provide to the CPM a copy of the transmittal letter submitted to the county and coastal commission requesting their review of the submitted surface treatment plan.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

If the CPM determines that the plan requires revision, the project owner shall provide to the Humboldt County Community Development Services Department, Planning Division and the California Coastal Commission a plan with the specified revision(s) for review before the plan is implemented.

Within ninety (90) days after the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and is ready for inspection; and shall submit one set of electronic color photographs from the selected KOPs 1, 2, and 3 at the least.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

Permanent Exterior Lighting

VIS-4 To the extent feasible, consistent with safety and security considerations and commercial availability, the project owner shall design and install all permanent exterior lighting such that a) light fixtures do not cause obtrusive spill light beyond the project site; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized, and e) lighting complies with local policies and ordinances. The project owner shall submit to the CPM for review and approval and simultaneously to the Humboldt County Community Development Services Department, Planning Division for review and comment a lighting mitigation plan that includes the following:

a) A process for addressing and mitigating complaints received about potential lighting impacts;

b) Lighting shall incorporate commercially available fixture hoods/shielding, with light directed downward or toward the area to be illuminated;

c) Light fixtures shall not cause obtrusive spill light beyond the project boundary;

d) All lighting shall be of minimum necessary brightness consistent with operational safety and security; and

e) Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

Verification: At least 45 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to determine the required documentation for the lighting mitigation plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the Humboldt County Community Development Services Department, Planning Division and the California Coastal Commission for review and comment a lighting mitigation plan. The project owner shall allow the county and the coastal commission at least 30 days to provide comment on the submitted lighting plan.

The project owner shall provide to the CPM a copy of the transmittal letter submitted to the county and coastal commission requesting their review of the submitted lighting plan.

The project owner shall provide the county and coastal commission comments to the CPM at least 10 days prior to the date lighting materials are ordered.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been installed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 10 days of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for

implementation. The project owner shall notify the CPM within 10 days after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days of complaint resolution.

Landscaping

VIS-5 The project owner shall install landscaping consistent with the draft landscape plan, dated February 7, 2007, shown on **Visual Resources Figures 11a** and **Figure 11b**. The project owner shall submit to the CPM for review and approval and simultaneously to the Humboldt County Community Development Services Department, Planning Division and the California Coastal Commission for review and comment a landscaping plan.

The Humboldt County Community Development Services Department, Planning Division and the California Coastal Commission shall have 30 calendar days to review the landscaping plan and provide written comments to the project owner. The project owner shall provide a copy of the county and coastal commission written comments to the CPM for review and approval.

The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM. The planting must be completed by the start of commercial operation, and the planting must occur during the optimal planting season.

Verification: Prior to commercial operation and at least 45 days prior to installing the landscaping, the project owner shall provide a copy of the landscaping plan to the Humboldt County Community Development Services Department, Planning Division and the California Coastal Commission for written comment. The project owner shall allow the county and the coastal commission at least 30 days to provide comment on the submitted landscaping plan.

The project owner shall provide to the CPM a copy of the transmittal letter submitted to the county and coastal commission requesting their review of the submitted landscaping plan.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM, the Humboldt County Community Development Services Department, Planning Division and the California Coastal Commission a plan with the specified revision(s) for review, and to the CPM for final approval before the plan is implemented.

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

Signage

VIS-6 The project owner shall install minimal signage visible to the public, which shall a) have unobtrusive colors and finishes that prevent excessive glare; and b) be consistent with the policies and ordinances of county of Humboldt. The design of any signs required by safety regulations shall conform to the criteria established by those regulations. The project owner shall submit a signage plan for the project to the CPM for review and approval and simultaneously to the Humboldt County Community Development Services

Department, Planning Division for review and comment. The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: Prior to the start of commercial operation and at least 60 days prior to installing signage, the project owner shall submit the signage plan to the CPM for review and approval and simultaneously to the Humboldt County Community Development Services Department, Planning Division for review and comment.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any signage visible to the public is installed.

The project owner shall provide the CPM with electronic color photographs after completing installation of signage.

REFERENCES

Buhyoff, G.J., P.A. Miller, J.W. Roach, D. Zhou, and L.G. Fuller. 1994. An AI methodology for Landscape Visual Assessments. AI Applications Vol. 8, No 1

Caltrans2007 - California Department of Transportation website http://www.dot.ca.gov/

CH2MHILL 2007c – CH2MHill/D. Davy (tn: 39225). Applicant's Responses to CEC Staff's Data Requests 58 – 78 and Workshop Queries 1 - 22. 2/13/2007. Rec'd 2/13/2007.

CH2MHILL 2007d – CH2MHill/D. Davy. Revised Visual Simulations Humboldt Bay Repowering Project. 11/19/2007. Rec'd 11/20/2007.

COC2007 - California Coastal Commission website: http://www.coastal.ca.gov/access/ctrail-access.html).

Humboldt County Code, Title III Land Use and Development, Division 1 Planning, July 6, 2006

Humboldt County General Plan, Volume II Humboldt Bay Area Plan of the Humboldt County Local Coastal Program, April 1995

NRC2007 - Nuclear Regulatory Commission website: http://www.nrc.gov/info-finder/decommissioning/power-reactor/humboldt-bay-nuclear-power-plant-unit-3.html). July 17, 2007

PG&E 2006a – PG&E/R. Kuga (tn: 38050). Humboldt Bay Repowering Project AFC Vol. 1 & 2, 1 AFC CD and 1 Air Modeling CD. 9/29/2006. Rec'd 9/29/2006

PG&E 2007b – PG&E/Susan Strachan. Applicable Coastal Act Sections Which Apply To Land Use, Geology, and Visual For Humboldt Bay Power Plant to John S. Kessler, Commission Staff. 11/14/2007. Rec'd 11/14/2007.

Smardon, Richard C., James E. Palmer, and John P. Felleman. 1986. Foundations for Visual Project Analysis*.* John Wiley & Sons. New Yor

APPENDIX VR-1

STAFF'S VISUAL RESOURCES EVALUATION METHODOLOGY

Staff evaluates the visual characteristics of the existing physical setting, the proposed project, the circumstances affecting the viewer, and the degree of visual change that a proposed project may introduce using the identified elements, and generally accepted criteria for determining substantial environmental impact significance identified below.

ELEMENTS OF THE METHODOLOGY

Key Observation Points

Staff evaluates the existing visible physical environmental setting from a fixed vantage point (called a "Key Observation Point" [KOP]), and the visual change introduced by the proposed project to the view from that KOP. The view as seen from the KOP is referred to as the viewshed. Staff uses a KOP[3] to represent a location(s) from which to conduct detailed analyses of the proposed project and to obtain existing condition photographs and prepare photo simulations. KOPs are selected to be representative of the most critical viewshed locations from which the project would be seen. Because it is not feasible to analyze all the views in which a proposed project would be seen, it is necessary to select a KOP that would most clearly display the visual effects of the proposed project. A KOP may also represent a primary viewer groups that would potentially be affected by the project. In addition to KOP photo(s), staff reviews landscape character photos that help provide a visual overview of a project site, its vicinity, and the selected KOP area, as appropriate. Prior to application submittal, staff participates in the selection of appropriate KOP(s) for the analysis.

LORS Consistency

Energy Commission staff consider federal, state, and local laws, ordinances, regulations, and standards (LORS) relevant to aesthetics, or protection and preservation of visual sensitive resources. Conflicts with such LORS can constitute significant visual impacts. For example visual staff examines land use planning documents, such as a local government's General Plan, Specific Plan, and zoning ordinances applicable to the project site and surrounding area to gain insight as to the type of land uses intended for the area, and the guidelines given for aesthetics, or protection and preservation of visual sensitive resources.

Visible Water Vapor Plume Frequency

When a proposed power plant is operated at times of low temperature and high humidity, the potential exists for the exhaust from its cooling towers to condense and form visible water vapor plumes (steam plume). The formed plume potentially could have an adverse effect on visual sensitive resources in the vicinity of the project.

[3]The use of KOPs or similar view locations is common in visual resource analysis. The U.S. Bureau of Land Management (USDI BLM 1986a, 1986b, 1984) and the U.S. Forest Service (USDA Forest Service 1995) use such an approach.

The severity of the visual impacts created by a project's visible plumes depends on five factors: 1) the frequency of the plumes, 2) the physical size of the plumes (dimensions), 3) the sensitivity of the viewers who would see the plumes, 4) the distance between the plumes and the viewers, 5) the visual quality of the existing viewshed; and, 6) whether a scenic resource or vista would be blocked by the plumes.

Staff completes water vapor plume modeling of the proposed project's cooling towers using design parameters provided by the applicant. Staff models the estimated plume frequency and dimensions for the cooling tower and turbine exhaust using the Combustion Stack Visible Plume (CSVP) model, and a multi-year meteorological data set obtained for the area where the project is proposed.

Staff considers the 20th percentile plume to be the reasonable worst case plume dimensions on which to base its visual impact analysis. The 20th percentile plume is the smallest of the plumes that are predicted to occur zero to 20%of the time. Eighty (80) percent of the time the dimensions of the clear hour plumes would be smaller than the 20th percentile plume dimensions. A one percentile clear hour plume would be extremely large, very noticeable to a wide area, but would occur very infrequently.

Staff focuses its frequency of the plumes analysis on the portion of the year when the ambient conditions (i.e., cool/cold temperatures and high relative humidity) are such that plumes are most likely to occur (typically from November through April) and when "clear" sky conditions exist because this is when the plumes would cause the most visual contrast with the sky and have the greatest potential to cause adverse visual impacts. Staff eliminates from consideration plumes that occur at night or during rain or fog conditions because plume visibility, and overall visual quality, is typically low during those conditions. In addition, plumes that occur during specific cloudy conditions are also eliminated because under these conditions, plumes have less contrast with the background sky. A plume frequency of 20% of seasonal daylight no rain/fog high visual contrast (i.e. "clear") hours is used to determine potential plume impact significance. If it is determined that the seasonal daylight clear hour plume frequency is greater than 20%, then plume dimensions are determined and a significance analysis is included in the Visual Resources section of the Staff Assessment for the proposed project.

Plume frequencies of less than 20% have been determined to generally have a less than significant impact. If the modeling predicts seasonal daylight clear plume frequencies greater than 20%, staff calculates the dimensions of the clear hour plumes and then conduct an assessment of the visual change (in terms of contrast, dominance and view blockage) that would be caused by the 20th percentile plume dimensions. Staff also analyzes the predicted plume's potential luminescence (light refraction resulting in a glare or glow) and color contrast, and opacity (the degree to which light is prevented from passing through an emission plume) that may be introduced to the KOP viewsheds. Considering the visual sensitivity of the existing landscape and viewing characteristics, the degree of visual change caused by the plumes may result in a significant visual impact.

California Environmental Quality Act Guidelines

The CEQA Guidelines define a "significant effect on the environment" to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions

within the area affected by the project including . . . objects of historic or aesthetic significance" (California Code of Regulations, Title 14, Section 15382).

Appendix G Environmental Checklist Form of the CEQA Guidelines, under "Aesthetics," lists the following four questions to be addressed regarding whether the potential impacts of a project are significant:

A. Would the project have a substantial adverse effect on a scenic vista?

B. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

C. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

D. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Staff answers each of the four checklist questions for the proposed project, including any related facility such as a transmission line or gas pipeline; and for both construction and operation phases.

APPENDIX VR-2

ENERGY COMMISSION STAFF - VISUAL ANALYSIS TERMS

For the purpose of this visual analysis, Energy Commission staff has defined the following visual related terms:

Duration of View - ranges from high (extended) a view of the project site that is reached across a stretched out distance, or amount of time; to, low (brief) a view of the project site that is reached in a short amount of distance or time. The range of view duration generally differs depending on the type of activity in which the viewers is engaged.

Scenic Resource - a unique water feature (waterfall, transitional water, part of a stream or river, estuary); a unique physical geological terrain feature (rock masses, outcroppings, layers or spires); a tree having a unique visual/historical importance to a community (a tree linked to a famous event or person, an ancient old growth tree); historic building; or a designated federal scenic byway or state scenic highway corridor.

Scenic Vista - a distant view through and along a corridor or opening that exhibits a high degree of pictorial quality.

Viewer Concern - estimated level of a viewer's anticipated interest in preserving and protecting the existing physical environment. Viewer attitudes and expectations is often correlated with viewer activity type (e.g., viewers engaged in certain activities, such as recreation, are considered to have high levels of concern for scenic quality, while those engaged in other activities, such as work, are generally considered to have lower levels of concern). Residences are generally considered to have high viewer concern.

Existing landscape character may temper viewer concern on some State and locally designated scenic highways and corridors. Similarly, travelers on other highways and roads, including those in agricultural areas, may have moderate viewer concern depending on viewer expectations as conditioned by regional and local landscape features. Commercial uses, including business parks, typically have low-to-moderate viewer concern, though some commercial developments have specific requirements related to visual quality, with respect to landscaping, building height limitations, building design, and prohibition of above-ground utility lines, indicate a higher level of viewer concern. Industrial uses typically have the lowest viewer concern because workers are focused on their work, and generally are working in surroundings with relatively low visual value.

Viewer Exposure – visibility of a landscape feature, the number of viewers, distance, and the duration of the view are primary factors affecting viewer susceptibility to impacts.

Viewshed – an area visible to an observer from a fixed vantage point (Key Observation Point [KOP]). Staff uses a 35mm camera with a focal length of 50mm which encompasses an approximate image angle of 46^0 similar to the field-of-view of the

human eye. The staff uses a viewshed that is not to be confused with a panoramic (180^0) or cycloramic (360^0). These are broad horizontal composition with no apparent limits to the view.

Visibility - the level the proposed project site is visually obstructed by natural and/or man-made surface features (development, vegetation, hills) from the Key Observation Point.

Visual Contrast - The conspicuousness or prominence of a project, and its compatibility with its setting. Contrast is described in terms of formal attributes of form, line, color, and texture of the project in comparison to those of the setting. Consider the proposed project's introduction of **form** (shape and mass), **line** (changes in edge types and interruption or introduction of edges, bands and silhouette lines), **color** (surface color, reflectivity, and glare), and **texture** (noticeable differences in the grain, or irregularity and directional patterns) to the existing physical environment to determine the degree of contrast**.** Degree of contrast: None – the element contrast is not visible or perceived; Weak – the element contrast can be seen but does not attract attention; Moderate – the element contrast begins to attract attention and begins to dominate the characteristic landscape; Strong – the element contrast demands attention, will not be overlooked, and is dominant in the landscape.

Visual Disruption - the extent to which a previously visible scenic resource or scenic vista in the existing physical environment is blocked from view by the proposed project. The view disruption is assigned greater weight according to the quality and importance of the block view.

Visual Quality – the estimated visual impression and appeal of the existing physical environmental setting and the associated public value attributed to it. An outstanding visual quality is a rating reserved for landscapes that would be what a viewer might think of as "picture postcard" landscapes. Low visual quality describes landscapes that are often dominated by visually discordant human alterations, and do not provide views that people would find inviting or interesting (Buhyoff et al., 1994).

Visual Scale - the proposed project's apparent size relationship with other components in the existing physical environment relative to the total field-of-view as viewed by the human eye, or the lens of a 35mm camera with a focal length of 50mm.

Visual Sensitivity - the overall level of sensitivity of a viewshed due to visual change is a function of visual quality, viewer concern, and viewer exposure.

VISUAL RESOURCES - FIGURE 1

Humboldt Bay Repowering Project - Humboldt Bay Harbor and Bay Aerial View

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: Digital Visual Library, Photographer Robert Campbell - May 3, 2007

VISUAL RESOURCES - FIGURE 2

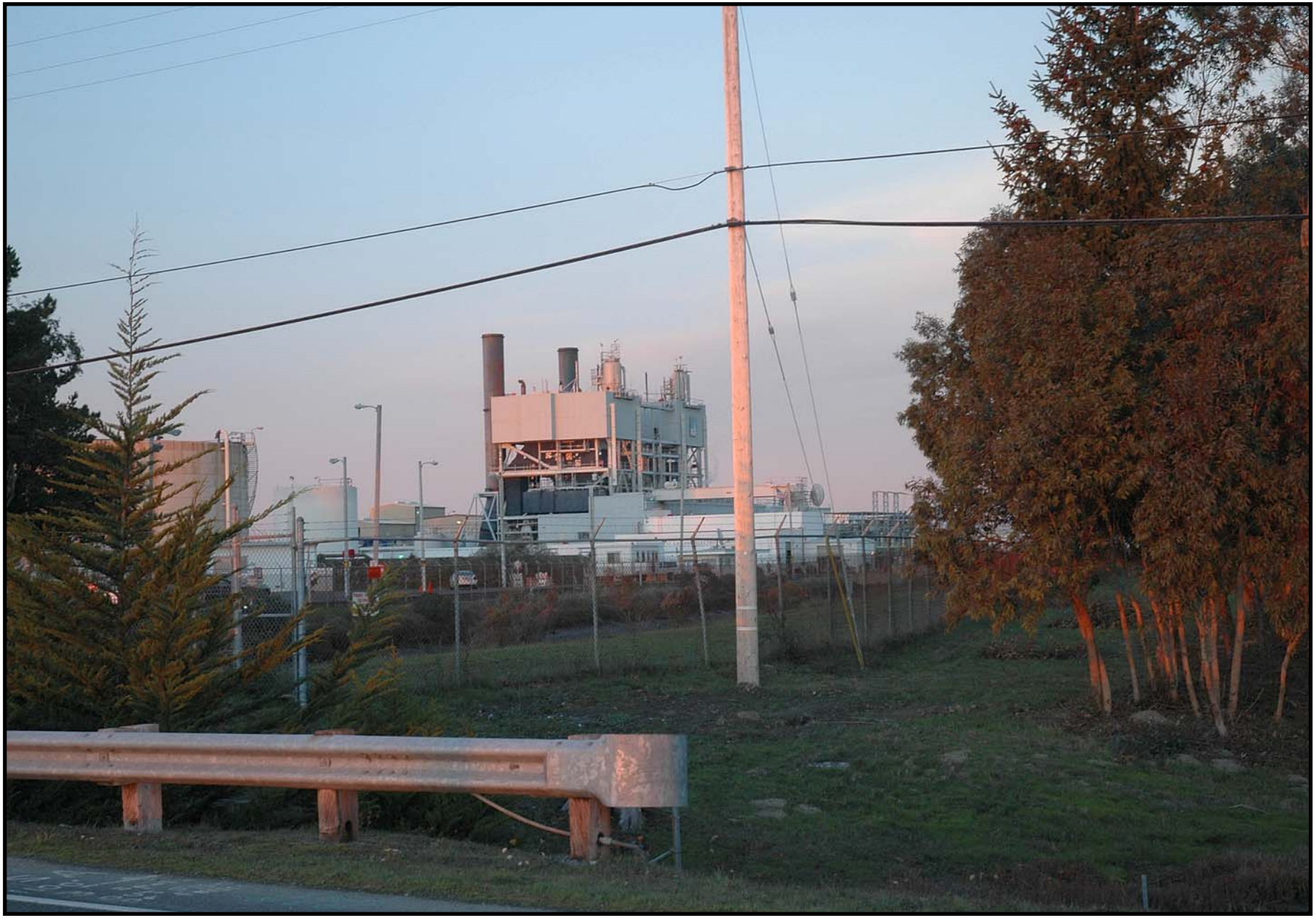
Humboldt Bay Repowering Project - Aerial View of PG&E Property and Site

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: Google Earth

VISUAL RESOURCES - FIGURE 3

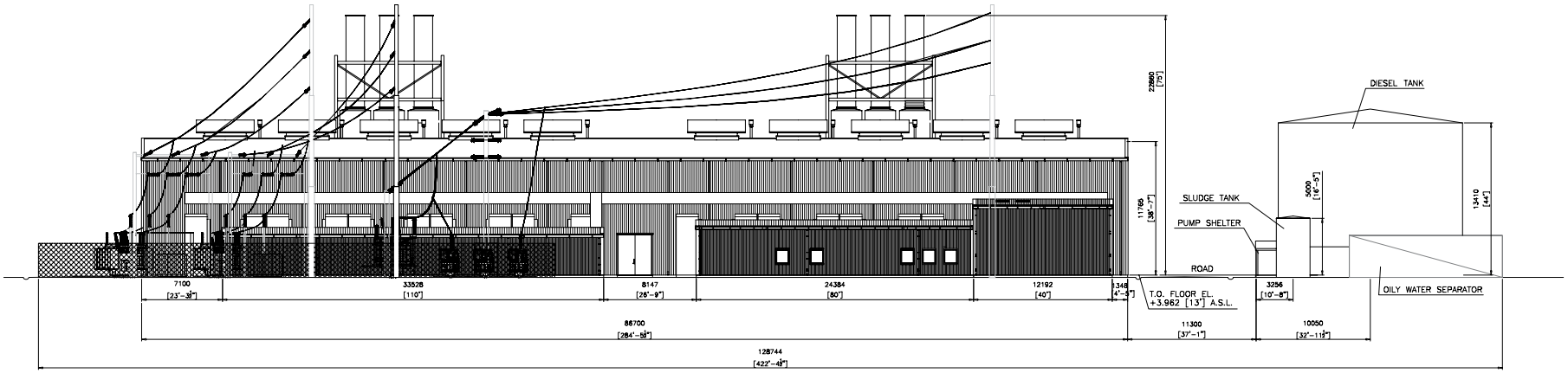
Humboldt Bay Repowering Project - View of Humboldt Bay Power Plant from King Salmon Avenue



SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 4

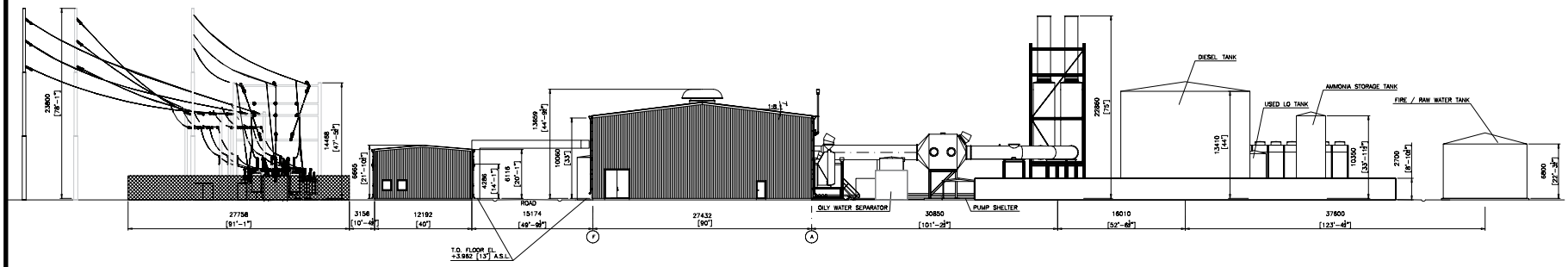
Humboldt Bay Repowering Project - Southwest View of Plant Elevation



SOURCE: AFC Figure 2.3-3

VISUAL RESOURCES - FIGURE 5

Humboldt Bay Repowering Project - Southeast View of Plant Elevation



SOURCE: AFC Figure 2.3-4

VISUAL RESOURCES - FIGURE 6

Humboldt Bay Repowering Project - Proposed Construction Road Access from King Salmon Avenue

SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 7

Humboldt Bay Repowering Project - Proposed Primary Parking Area

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 8

Humboldt Bay Repowering Project - Proposed Remote Primary Parking Area

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 9

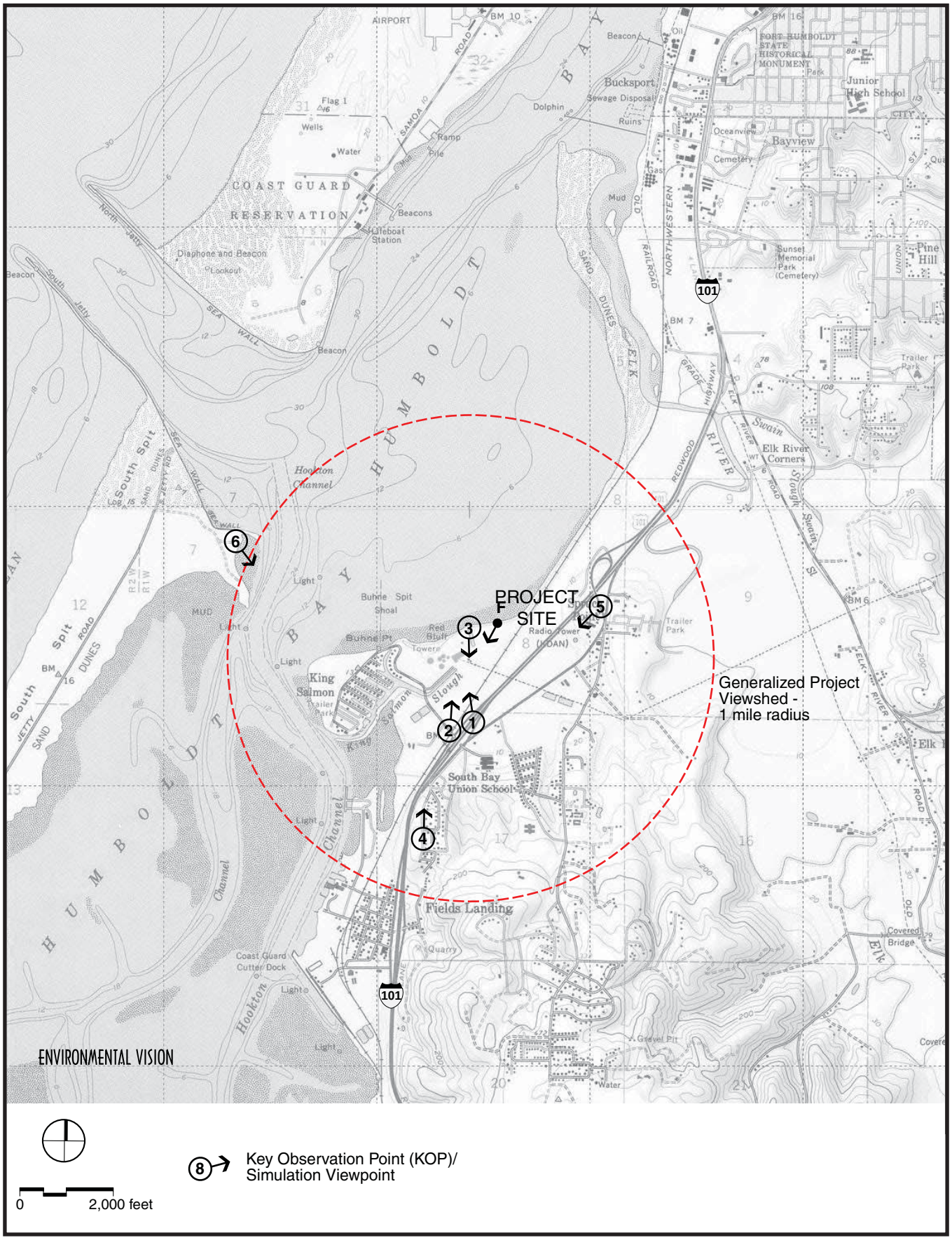
Humboldt Bay Repowering Project - Proposed Construction Laydown Area

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 10

Humboldt Bay Repowerig Project - Key Observation Points

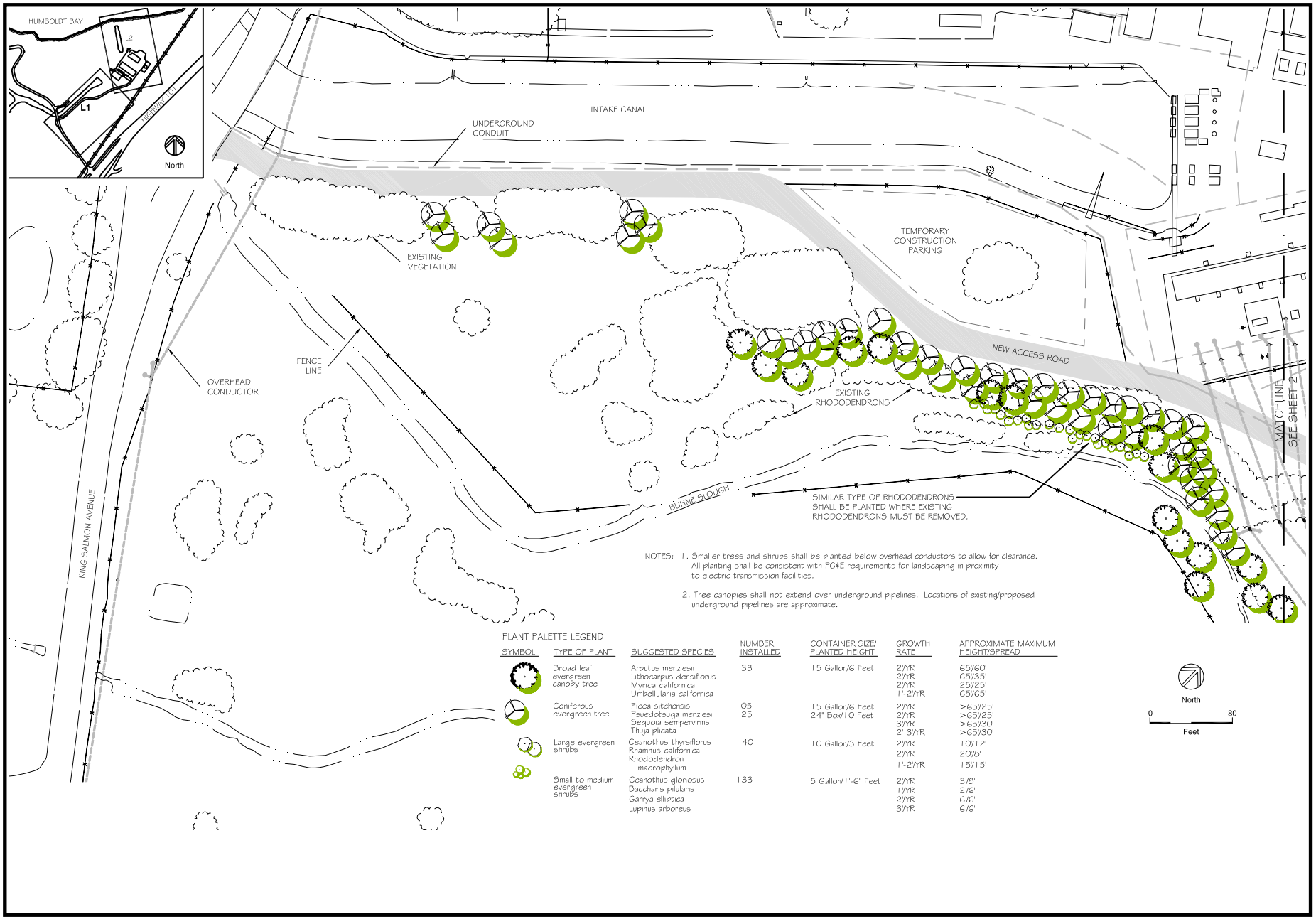


CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-3

VISUAL RESOURCES - FIGURE 11-A

Humboldt Bay Repowering Project - Draft Landscape Plan - Sheet 1



SOURCE: CH2M HILL 2007c

VISUAL RESOURCES - FIGURE 11-B

Humboldt Bay Repowering Project - Draft Landscape Plan - Sheet 2

NOTES: 1. See Sheet 1 for plant palette legend.

2. Smaller trees and shrubs shall be planted below overhead conductors to allow for clearance. All planting shall be consistent with PG&E requirements for landscaping in proximity to electric transmission facilities.

3. Tree canopies shall not extend over underground pipelines. Locations of existing/proposed underground pipelines are approximate.

SOURCE: CH2M HILL 2007c

VISUAL RESOURCES - FIGURE 12

Humboldt Bay Repowering Project - Landscape Character Photo Showing Residence Across From Remote Parking Area on King Salmon Avenue

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 13 - KOP 1

Humboldt Bay Repowering Project - Existing View Toward the Project Site from Northbound U.S. Highway 101

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-5

VISUAL RESOURCES - FIGURE 14

Humboldt Bay Repowering Project - Photo Simulation of Proposed Project's Publicly Visible Structures In KOP 1 Viewshed

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: Revised Simulation From CH2MHill, 10/25/2007 (Simulation Showing 100 Foot Exhaust Stacks)

VISUAL RESOURCES - FIGURE 15 - KOP 2

Humboldt Bay Repowering Project - Existing View From King Salmon Avenue Looking Toward The Project Site

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-6

VISUAL RESOURCES - FIGURE 16

Humboldt Bay Repowering Project - Photo Simulation of Proposed Project's Publicly Visible Structures In KOP 2 Viewshed

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: Revised Simulation From CH2MHill, 10/25/2007 (Simulation Showing 100 Foot Exhaust Stacks)

VISUAL RESOURCES - FIGURE 17

Humboldt Bay Repowering Project - Photo Simulation of Proposed Landscaping At Five Years With The Future Removal Of Humboldt Bay Units 1, 2, and 3 In The KOP Viewshed

SOURCE: CH2M HILL 2007c (Simulation Showing 75 Foot Exhaust Stacks)

VISUAL RESOURCES - FIGURE 18 - KOP 3

Humboldt Bay Repowering Project - Existing View From Public Shoreline Trail Looking South Toward Project Site

SOURCE: AFC Figure 8.13-7

VISUAL RESOURCES - FIGURE 19

Humboldt Bay Repowering Project - Landscape Character Photo of Public Shoreline Trail Along PG&E Property Looking East

CALIFORNIA ENERGY COMMISSION - ENERGY FACILITIES SITING DIVISION, NOVEMBER 2007

SOURCE: CEC Staff Photo

VISUAL RESOURCES - FIGURE 20

Humboldt Bay Repowering Project - Photo Simulation of Proposed Project's Publicly Visible Structures In KOP 3 Viewshed

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: Revised Simulation From CH2MHill, 10/25/2007 (Simulation Showing 100 Foot Exhaust Stacks)

VISUAL RESOURCES - FIGURE 21 - KOP 4

Humboldt Bay Repowering Project - Existing View From Loma Avenue Looking Toward Project Site

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-3

VISUAL RESOURCES - FIGURE 22

Humboldt Bay Repowering Project - Photo Simulation of Proposed Project's Publicly Visible Structures In KOP 4 Viewshed

VISUAL RESOURCES

NOVEMBER 2007

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-8 (Simulation Showing 75 Foot Exhaust Stacks)

VISUAL RESOURCES - FIGURE 23 - KOP 5

Humboldt Bay Repowering Project - Existing View From Spruce Vista Point Looking Southwest Toward Project Site

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-9

VISUAL RESOURCES - FIGURE 24

Humboldt Bay Repowering Project - Photo Simulation Of Proposed Project's Publicly Visible Structures In The KOP 5 Viewshed

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: Revised Simulation From CH2M Hill, 10/25/2007 (Simulation Showing 100 Foot Exhaust Stacks)

VISUAL RESOURCES - FIGURE 25 - KOP 6

Humboldt Bay Repowering Project - Existing View From The South Spit Wildlife Area Toward Project Site Across Humboldt Bay

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8.13-10

VISUAL RESOURCES - FIGURE 26

Humboldt Bay Repowering Project - Photo Simulation of Proposed Project's Publicly Visible Structures In The KOP 6 Viewshed

VISUAL RESOURCES

NOVEMBER 2007

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITY SITING DIVISION, NOVEMBER 2007

SOURCE: AFC Figure 8-13-10 (Simulation Shows 75 Foot Tall Exhaust Stacks)