1.0 EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

This Application for Certification (AFC) is for the construction and operation of a nominal 930-megawatt (MW) generation facility at the site of the Contra Costa Power Plant (CCPP) facility owned by Mirant Delta, LLC (Mirant Delta) in California. The proposed Marsh Landing Generating Station (MLGS) will be owned and operated by Mirant Marsh Landing, LLC (Mirant Marsh Landing) and will be an independent, stand-alone facility from the CCPP. The general location of the site is shown on Figure 1-1. When completed, the MLGS will occupy approximately 27 acres on the western portion of the CCPP property, generally within the footprint of the area occupied by five #6 fuel oil tanks and an area to the east of the tanks. These five fuel oil tanks are no longer used to support CCPP plant operations and are slated for demolition in 2008. The approximately 27-acre MLGS parcel will be created by subdividing the existing single parcel that constitutes the site of the CCPP. The parcel will be purchased by Mirant Marsh Landing from Mirant Delta.

The CCPP is located at 3201 Wilbur Avenue in unincorporated Contra Costa County, California, approximately 1/10 mile from the current City of Antioch limits; however, the City intends to annex the project site and adjacent land in 2009. The MLGS will be located within the existing CCPP site, Assessor's Parcel Number (APN) 051-031-014, in unincorporated Contra Costa County, California. The MLGS site is located on Section 16, Township 2 North, Range 2 East, on the U.S. Geological Survey (USGS) Antioch North Topographic Quadrangle Map TCA 0820.

This brownfield MLGS site is surrounded by the San Joaquin River to the north and industrial uses to the south, east and west. The nearest residential neighborhood is approximately 2,000 feet southwest of the site boundary. PG&E's Gateway Generating Station (GGS) is located immediately east of the CCPP.

The MLGS will consist of new natural-gas–fired generation facilities and ancillary systems. The generators for the MLGS will be connected to the Pacific Gas & Electric Company (PG&E) switchyard adjacent to the site. The MLGS will be interconnected to PG&E's California transmission grid, and power generated by the facility will be available to serve energy needs throughout California.

The MLGS consists of four power blocks: two Siemens Flex Plant 10 (FP10) units operating in combined-cycle mode and two Siemens 5000F combustion turbine units operating in simple-cycle mode. The FP10 combined-cycle units will be intermediate load power blocks, expected to operate at a 40 to 50 percent capacity factor, and generating approximately 550 MW (net average conditions) when both are operated together. The simple-cycle power blocks will provide peaking power and are expected to operate at less than 10 percent capacity factor, generating approximately 380 MW (net average conditions) when operated together.

The power generation facility will burn pipeline-quality natural gas delivered by PG&E via PG&E's interstate natural gas transmission Line 400, which runs along the eastern boundary of the GGS property. Natural gas will be provided to the new facility via a new pipeline that is approximately 2,100-feet-long. The pipeline will connect to the main transmission line and run across the CCPP and GGS properties. The gas metering station will be located within the MLGS project site.

The project will use dry cooling technology, which eliminates the large water supply required by wet-cooled power generation projects. The source process water will be recycled water from the Delta Diablo Sanitation District (DDSD) system. A small treatment system will be constructed at the DDSD's Bridgehead Lift Station (BLS) to convert untreated wastewater to recycled water for use at the new plant. Two approximately 1-mile-long offsite water lines will be constructed to bring recycled water from and return wastewater to DDSD's BLS. The small amount of potable water needed for drinking water will be

supplied by the City of Antioch via a 100-foot-long connection to the water line on the CCPP property. There will be no withdrawals from or discharges of process water to the San Joaquin River.

Construction of the project is estimated to cost approximately $800 million dollars (in 2008 dollars). Construction and startup of the new power generation facility is expected to take approximately 33 months. Construction will begin approximately in autumn 2009. Commercial operation for the Simple Cycle units is planned for summer 2011, with the operation of the FP10 combined-cycle units in summer 2012.

1.2 PROJECT OBJECTIVE

Mirant has identified several basic objectives for the development of an electric generating station at the CCPP site. These objectives include:

- Providing new dispatchable, operationally flexible resources to meet the electric needs of the State of California.
- Installing new generating capacity at an existing brownfield site owned by Mirant and avoiding the need for significant new electricity or gas infrastructure or rights-of-way.
- Generating electric power at a location near the electric load center, to increase reliability of the regional electricity grid, while satisfying local capacity requirements and reducing regional dependence on imported power.
- Producing quick-start electricity during times when renewable (e.g., wind) generation is not available (i.e., as backup generation for renewables).
- Safely producing electricity without creating significant environmental impacts.

1.3 PROJECT BACKGROUND

The MLGS will be adjacent to the existing CCPP, which includes seven existing units. Units 1, 2, and 3 began service in 1951; Units 4 and 5 in 1953; and Units 6 and 7 in 1964. As of January 2008, CCPP Units 1 through 5 have been retired, and Units 6 and 7 produce electricity for distribution through the grid. PG&E sold the CCPP to Southern Energy Delta, L.L.C. (now known as Mirant Delta) in 1999. Mirant Delta continues to own and operate the CCPP facility.

The existing units are conventional gas-fired boilers. The retired CCPP Units 1 through 5 are arrayed along a large centralized turbine building. Units 6 and 7 are in a common structure just east of the Units 1-5 turbine building. In addition, the site includes an existing water treatment plant, a 29 percent aqueous ammonia storage facility, and water intake and discharge facilities. Mirant Delta has ongoing routine maintenance and capital improvement projects at the CCPP that may occur prior to and during the development of the MLGS. These projects are not directly or indirectly connected to the MLGS and therefore are not part of the project.

The existing Units 6 and 7 withdraw water from the San Joaquin River from an existing intake structure and discharge cooling water back to the river via existing Outfall-002, located in the northeastern corner of the CCPP property. Stormwater from the CCPP site discharges to the river via Outfall-001. The MLGS will not withdraw from or discharge process water to the river. Stormwater runoff from the majority of the 27-acre MLGS site will continue to be discharged to the river via Outfall-001.

In addition, PG&E, on the parcel to the east of the CCPP, is currently constructing the GGS, a new generation facility approved by the California Energy Commission (CEC) in May 2001 (Docket

Number 00-AFC-1) and amended in 2007. Construction is expected to be completed in early 2009, prior to the commencement of construction of the MLGS. Activities associated with the construction and operation of the GGS are not a part of this project.

1.4 FACILITY DESCRIPTION

The project will be constructed, owned, and operated by Mirant Marsh Landing, LLC (an indirect, wholly owned subsidiary of Mirant Corporation) at the CCPP, an existing power plant owned and operated by Mirant Delta (also an indirect wholly owned subsidiary of Mirant Corporation). The MLGS property is bordered on the east and south by the CCPP and the PG&E switchyard, on the west by a vacant industrial property, and on the north by the San Joaquin River. The MLGS property is approximately 27 acres in area, generally within the footprint of five #6 fuel oil tanks and an area to the east. The locations of the MLGS, associated linear facilities, and worker parking and equipment staging areas are shown on Figure 2.3-1a. Permanent access to both the CCPP and MLGS will be from Wilbur Avenue. Figure 1-2 provides a photographic reproduction of the site. Figure 1-3 shows a visual simulation of the site with the nearby GGS (currently under construction). A visual simulation of the site after construction of the MLGS is shown on Figure 1-4.

The project will be constructed on the same parcel as the existing CCPP facility, located on APN 051-031-014. The MLGS site is located on Section 16, Township 2 North, Range 2 East on the USGS Antioch North Quadrangle Map TCA 0820.

The MLGS will be a 930-MW power plant constructed entirely within the existing CCPP property in Contra Costa County, California. The MLGS will consist of four power blocks: two Siemens FP10 combined-cycle units and two Siemens 5000F Simple Cycle units. Each of the four combustion gas turbines and two steam turbines will be connected to separate electric generators. The generators for the MLGS will be connected to the PG&E switchyard located adjacent to the MLGS site.

Major elements of the MLGS are summarized below:

- Each Siemens FP10 power block includes one natural gas-fired SGT6-5000F combustion turbine generator (CTG) equipped with ultra low NO_X combustors and inlet air evaporative cooler, one heat recovery steam generator (HRSG), one SST-800 back pressure steam turbine and generator (STG), an air-cooled heat exchanger, and associated auxiliary systems and equipment;
- The Siemens 5000F Simple Cycle units will consist of two Siemens 5000F natural-gas–fired CTGs equipped with ultra low NO_X combustors and inlet air evaporative cooler;
- Use of dry-cooling for heat rejection;
- Natural gas compressors;
- Two 20,000-gallon aqueous ammonia storage tanks, associated ammonia unloading station, in-plant distribution piping, and ammonia vaporizer(s);
- Four approximately 150-foot-tall stacks equipped with continuous emissions monitoring systems, each discharging the exhaust from one CTG/HRSG train or one CTG;
- Water treatment system building and associated water storage tanks;
- A control building for housing the MLGS plant distributed control systems and electrical equipment and warehouse for storage of equipment;

- Connection via a new 12-inch-diameter gas line to the existing PG&E's natural gas transmission line, located approximately 2,100 feet east of the MLGS metering station;

- Single circuit 230-kilovolt (kV) transmission lines from the new generators to PG&E's adjacent switchyard; and

- An underground fire loop that will be fed from the existing CCPP fire system.

Approximately 14 acres within the CCPP property (but outside the MLGS property) will be used for construction laydown, offices and parking. Primary access to the project site during construction will be from State Route (SR) 4 and SR 160 via Wilbur Avenue. Existing entrances and access roads within the CCPP will be used.

The project's related linear facilities will include potable and makeup water lines, a wastewater discharge line, and a natural gas line. Plant process wastewater and sanitary wastewater will be discharged via a new pipeline along Wilbur Avenue to DDSD's BLS under a new Industrial Wastewater Discharge permit. Storm water runoff from the majority of the site will be discharged to the San Joaquin River in accordance with the NPDES Industrial Storm Water General Permit. Storm water runoff from curbed areas, which has the potential to be in contact with contaminants, will be collected and then conveyed to the wastewater discharge system for discharge to DDSD's system.

1.5 PROJECT OPERATIONS

Power produced by the plant will be sold into the wholesale energy market and serve electric demand in Northern California. Depending on market demand and the provisions of bilateral sales, in any given hour the plant may be operating at peak load, base load, or part load with one or more CTGs running. Peak load operation will most likely occur during summer on-peak hours, and minimum load operation during off-peak hours. Shutdown periods for annual maintenance will be scheduled during extended periods of low demand, which typically occur in the autumn or spring.

The design of the MLGS provides for a wide range of operating flexibility (i.e., an ability to start up quickly and operate efficiently during operating modes).

1.5.1 Flex Plant 10 Units

The average net generating capacity of each of the FP10 combined-cycle units will be approximately 275 net MW. The actual net output of the system will vary in response to ambient air temperature conditions, use of evaporative coolers, power augmentation, amount of auxiliary load, generator power factor, firing conditions of the combustion turbines, and other operating factors. Full load output (net) of the facility under expected operating conditions will range from approximately 265 MW to 285 MW. The FP10 combined-cycle units can operate at part load with the CTGs operating down to minimum load while keeping the STG on line or off line. Operational modes will be driven by good operating practices, market conditions, and dispatch requirements. Overall annual availability of the power plant as measured by Equivalent Availability Factor (EAF) is expected to be in the range of 92 to 98 percent.

An ultra low NO_X combustor system will be used to control the NO_X concentration exiting each CTG. As an additional post-combustion NO_X control system, an NO_X selective catalytic reduction (SCR) system will be provided in each HRSG to further reduce the NO_X emissions. The SCR system for each HRSG will inject an aqueous ammonia solution into the exhaust gas stream upstream of a catalyst bed to reduce the NO_X to inert nitrogen and water. An oxidation catalyst system will also be incorporated into the air quality control system to control emissions of carbon monoxide (CO) and volatile organic compounds (VOCs).

1.5.2 Simple Cycle Units

The Siemens 5000F Simple Cycle units will consist of two Siemens 5000F natural-gas–fired CTGs. The nominal net generating capacity of the two Simple Cycle turbines will be approximately 380 net MW. The actual output of the system will vary in response to ambient air temperature conditions and the use of evaporative coolers. Full load output of the Simple Cycle units under expected operating conditions (both CTGs running) will range from approximately 360 net MW to a peak of 440 net MW. The units can also operate at partial load with one or both CTGs running at minimum load. Operational modes will be dictated by energy demand and market price. The overall annual availability of the Simple Cycle units as measured by EAF is expected to be approximately 94 to 98 percent.

An ultra low NO_X combustor system will be used to control the NO_X concentration exiting each CTG. As an additional post-combustion NO_X control system, an NO_X selective catalytic reduction (SCR) system will be installed downstream of the gas turbine to further reduce the NO_X emissions. The SCR system will inject an aqueous ammonia solution into the exhaust gas stream upstream of a catalyst bed to reduce the NO_X to inert nitrogen and water. Dilution air fans will temper flue gas temperatures to meet SCR catalyst temperature requirements. An oxidation catalyst system will also be incorporated into the air quality control system to control emissions of CO and VOCs.

1.6 PROJECT SCHEDULE

The AFC for the MLGS has been submitted to the CEC in May 2008 under the 12-month review and certification process. Construction, and startup are expected to take at least 33 months. Construction will begin approximately in autumn 2009. Commercial operation for the Simple Cycle units is planned for summer 2011, with the operation of the FP10 combined-cycle units in summer 2012.

1.7 PROJECT OWNERSHIP

The project will be owned and operated by Mirant Marsh Landing.

1.8 WATER SUPPLY

The project will use dry cooling technology, which eliminates the large water supply required by wet-cooled power generation projects. The source for raw process water will be recycled water from the DDSD. A small treatment system will be constructed at the DDSD's BLS to convert untreated wastewater to recycled water for use at the new plant. Two approximately 1-mile-long offsite water lines will be constructed to bring recycled water from and return wastewater to DDSD's BLS. The small amount of potable water needed for domestic and sanitary water will be supplied by the City of Antioch via a connection to an existing water line on the CCPP property. There will be no withdrawals from or discharges of process water to the San Joaquin River.

1.9 FUEL SUPPLY

The power generation facility will burn pipeline quality natural gas delivered by PG&E via PG&E's interstate natural gas transmission Line 400, which runs along the eastern boundary of the GGS property. Natural gas will be provided to the new facility via a new pipeline that is approximately 2,100 feet long. The pipeline will connect to the main transmission line and run across the CCPP and GGS properties. The gas metering station will be located within the MLGS project site.

1.10 ELECTRIC TRANSMISSION

The proposed project site is located adjacent to PG&E's switchyard. Three single-circuit 230-kV transmission lines will be constructed connecting the MLGS site to the adjacent PG&E switchyard to deliver the project's electrical output to the transmission grid.

1.11 PROJECT ENVIRONMENTAL FACTORS

Impacts that the project may have on the environment have been evaluated in detail. The MLGS would avoid or minimize potential environmental impacts through project siting and design, and incorporation of mitigation measures. As a result, the MLGS would have no significant environmental impacts.

1.11.1 Air Quality

The project would not have a significant adverse impact on air quality. The project would generate emissions of criteria pollutants including NO_X, CO, VOCs, sulfur dioxide (SO_2), and particulates less than or equal to 10 microns in diameter (PM_{10}). Emissions of NO_X, CO, VOCs, SO_2, and PM_{10} will be fully offset by providing emission reductions from emission reduction credits held by Mirant or from other local sources.

In addition, the facility will incorporate the following state-of-the-art air pollution controls that reflect Best Available Control Technologies (BACT) to reduce emissions:

- Ultra low NO_X burner technology and SCR to reduce NO_X emissions to 2 parts per million (ppm) for the FP10 combined-cycle units and 2.5 ppm for the Simple Cycle units at 15 percent oxygen (O_2) dry.
- An oxidation catalyst to limit CO emissions to 3 ppm at 15 percent O_2 dry and VOC emissions to 2 ppm at 15 percent O_2 dry.
- Pipeline-quality natural gas as a primary fuel and inlet air filtration to limit SO_2 and PM_{10} emissions.

The modeling analysis conducted for nitrogen dioxide, CO, SO_2, and PM_{10} is presented in Appendix J. The results show that the project, with the planned emission control systems, would neither cause an exceedance of the California and National Ambient Air Quality Standards, nor contribute significantly to an existing exceedance. Additional modeling results demonstrate that the project would not cause an incremental impact above the significant impact thresholds under the federal Prevention of Significant Deterioration program.

1.11.2 Biological Resources

Biological impacts have been minimized by siting facilities within an existing power plant facility. Access to the MLGS during operations will be provided through the CCPP entrances and via onsite access roads. Based on surveys conducted to date, no special-status plants or wildlife would be affected by the project. Therefore, impacts to biological resources would be less than significant.

1.11.3 Cultural Resources

Consultation with six Native American individuals/organizations was initiated based on information provided by the Native American Heritage Commission. Four responses have been received to date, and all information received will be considered as the permitting process moves forward. Site-specific surveys conducted for the project, including laydown areas, did not identify significant archaeological or

built environment resources. Given the extent of previous disturbance at the site, it is unlikely that intact archaeological deposits exist undiscovered within the site. However, mitigation measures are identified in the unlikely event that this would occur. With implementation of mitigation measures, impacts would be less than significant.

The historical inventory analysis concludes that the CCPP at 3201 Wilbur Avenue does not meet the criteria for listing in the California Register of Historical Resources or National Register of Historic Places. Furthermore, none of the resources subject to reconnaissance survey along the linear features of the project appeared to be historically sensitive, and they required no further study. None of the resources surveyed are considered historical resources for the purposes of the California Environmental Quality Act. Therefore, there would be no impacts to historical architecture.

1.11.4 Land Use

The project is located within an existing industrial facility in the portion of Contra Costa County designated for heavy industrial use within the County's Urban Limit Line. The MLGS is compatible with the land use designations and zoning, and with applicable land use plans and policies. Land use impacts would be less than significant.

1.11.5 Noise

Construction noise would temporarily elevate the noise levels in the surrounding community. Most often, the sound levels would be moderate, with a few processes causing short-term, substantially elevated noise levels. With mitigation measures, construction noise impacts would be less than significant. The project has been designed with substantial noise control features. Project noise levels during operation of the facility are not predicted to exceed recommended noise compatibility guidelines at any sensitive receptors. Operational noise impacts would be less than significant.

1.11.6 Public Health

Because project construction will be of short duration, significant long-term public health effects are not expected as a result of construction. During operation, the project will be fueled with clean-burning natural gas to minimize potential toxic air emissions. The maximum incremental cancer risk from project emissions is estimated to less than 0.1 in one million which is well below the significance criterion of 10 in one million and the Toxic Best Available Control Technology (TBACT) Threshold of 1 in one million. For sensitive receptors, the maximum chronic total hazard index (THI) and the maximum acute THI are both estimated to be less than 0.1, which is well below the significance criterion of 1.0 and the TBACT threshold of 0.2. Based on this evaluation using conservative assumptions, MLGS emissions are expected to pose no significant cancer or non-cancer health effects. As demonstrated by the air quality analysis, criteria pollutant emissions from the MLGS would not cause or contribute to violations of federal or state ambient air quality standards, which have been set at levels designed to protect public health. Adverse health effects from criteria pollutant emissions would be well below significance thresholds.

1.11.7 Worker Safety and Health

Worker exposure to physical and chemical hazards would be minimized through adherence to appropriate engineering design criteria, implementation of appropriate safety and administrative procedures, use of personal protective equipment, and compliance with applicable health and safety regulations. Impacts would be less than significant.

1.11.8 Socioeconomics

The project would have a positive impact on fiscal resources in the city, county, and region. Construction is expected to occur over a 33-month period, and total construction costs are estimated to be approximately $160 million for payroll and $640 million for materials, supplies, and equipment. An estimated $30 million would be spent on materials supplies and equipment sourced within the five-county area — Contra Costa, Sacramento, San Joaquin, Alameda, and Solano counties — on materials and supplies, with the remaining $610 million purchased elsewhere.

Estimated indirect and induced effects of construction that would occur within the five-county area would include an additional 1,500 jobs, $216 million in payroll, $9.4 million in indirect business taxes.

During operation, labor costs would be approximately $3.5 million per year, most of which would likely be spent in the five-county area. Nonlabor operational costs would be approximately $6.5 million per year. In the five-county area the total estimated direct, indirect and induced effects of operations would result in 43 additional jobs, $4.4 million in payroll, $165,000 in indirect business taxes and $12.9 million in economic output.

The majority of the construction workers would be expected to be hired from within the five-county area. Given the substantial available construction force in Contra Costa County alone, as well as in the surrounding four counties, it is expected that an adequate labor force within daily commute distance would be available to support the project.

The construction and operation of the MLGS would not have a significant adverse impact on law enforcement, fire, emergency, medical, utility, or educational services. The project would not create a disproportionate impact on any low income or minority populations.

1.11.9 Soils

The project will be built within an existing industrial facility. Approximately 8,000 cubic yards of excess soil will be reused or recycled to the extent possible. If necessary it will be exported off site to an appropriate landfill (e.g., Keller Canyon Landfill). The erosion characteristics of the soil types on the project site range from slight to moderate. With best management practices incorporated into the project, impacts from soil erosion would be less than significant.

1.11.10 Traffic and Transportation

Access to the project site will be from SR 4 and SR 160 via Wilbur Avenue. From Wilbur Avenue, construction vehicles would primarily use existing CCPP access roads to the construction parking, laydown areas, and the project site. During the peak construction month, June 2011, there would be an estimated 403 workers traveling to the project site. With carpooling, approximately 363 peak daily round trips are anticipated. The schedule has been estimated based on a single shift, 10-hour day, and 50-hour week. The majority of construction operations are expected to take place between 6:00 a.m. and 6:00 p.m. However, longer workdays or work weeks may be necessary to make up schedule delays or complete critical construction activities. During the start-up and testing phase of the project, some activities may continue 24 hours per day, 7 days per week.

Construction traffic is not projected to result in Level of Service (LOS) degradation of any intersections or roadway segments to unacceptable levels. Therefore, the project would have a less-than-significant impact on traffic during construction.

During plant operations, there will be a total of approximately 20 employees: eight on rotating shift and 12 working regular hours (Monday through Friday, 6:30 a.m. to 3 p.m.). A total of 20 peak daily round-

trip employee trips and 16 delivery round trips are anticipated. This would not change the existing LOS on local or freeway access roads or intersections and would be a less-than-significant impact.

1.11.11 Visual Resources

The project will be located in an area dominated by existing industrial uses. In general, short-term construction impacts are not expected to lead to significant visual impacts due to their temporary nature. The plant's location within an existing heavy industrial area also reduces the visual impact. Project features designed to reduce visual impacts include colors chosen to blend with the CCPP, use of non-reflective materials, and shielded and controlled lighting using high-pressure sodium vapor fixtures. Visual modifications range from not-noticeable to noticeable, and impact levels range from low to moderate. These impacts would be less than significant.

1.11.12 Hazardous Materials Handling

Minimal storage of hazardous materials would occur on site. Hazardous materials would include aqueous ammonia for the SCR system, combustion exhaust catalysts, lubricating and machine oils, various water additives and water treatment chemicals including acids and caustics, and various cleaning chemicals. None of the chemicals at the MLGS would be stored in quantities above the federal thresholds, and only aqueous ammonia would be stored on the site in a quantity greater than the California Accidental Release Prevention Program threshold. Equipment and containers would be located inside containment berms, and incompatible materials would be stored in separate containment areas. Areas susceptible to potential leaks or spills will be paved and bermed. Piping and tanks will be protected from potential traffic hazards by concrete and/or steel barriers. The MLGS will provide employee training and implement accident prevention and mitigation measures to reduce the risk associated with the use and storage of hazardous materials.

The MLGS will have two new ammonia storage facilities, one for the FP10 combined-cycle units and one for the Simple Cycle units. Each storage tank will be located within a dedicated concrete containment area with underground sump and have a tanker truck offloading facility located within a containment berm. Analyses of public health impacts associated with a hypothetical release of ammonia indicate that the predicted worst-case scenarios would not result in a predicted impact exceeding any of the toxic endpoint concentrations at the nearest offsite receptor locations. Therefore, the potential impacts of these release scenarios would be less than significant.

1.11.13 Waste Management

Wastes generated by the MLGS during construction and operation of the facility will be recycled to the extent practicable. Wastes would include nonhazardous solid and liquid wastes (e.g., scrap metal and sanitary waste) as well as hazardous solid and liquid wastes (e.g., spent SCR and oxidation catalyst and waste lubrication oil). Appropriate procedures and personnel training would provide assurance that nonhazardous and hazardous wastes are properly handled and do not significantly affect the environment or health and safety.

Disposal of nonhazardous waste from the plant would not significantly impact the capacity of the Class II and III waste disposal facilities identified as available for use by the project. Similarly, hazardous waste generation and disposal from the MLGS would be minimized by recycling and would not significantly impact the capacity of Class I hazardous waste disposal facilities identified as available for use by the project.

1.11.14 Water Resources

The MLGS is a dry-cooled facility that reduces water demand for power plants by several thousand acre-feet per year. The project would use recycled water supplied by a local provider, DDSD. A new satellite treatment facility would be constructed on behalf of the project at DDSD's BLS. A new 1-mile pipeline along Wilbur Avenue would convey the recycled water produced at the BLS to the MLGS. The project would include construction of new storage tanks to equalize flows for operations.

Process and sanitary wastewater would be discharged via a new pipeline along Wilbur Avenue to DDSD's Bridgehead Lift Station under a new Industrial User's permit.

Because the project would be constructed on an existing power plant site, within an area currently covered by tanks and pavement, there would not be an increase in the amount of impervious area. Therefore, there would not be an increase in the volume or rate of storm water runoff. Project features designed to be protective of water quality include curbs around areas with potential oil or chemical contamination and secondary spill containment around chemical delivery and storage areas, and transformers. The site is not located in a floodplain. Impacts to water resources would be less than significant.

1.11.15 Geologic Hazards and Resources

No significant geological or soil-related impacts are anticipated from the construction or operation of the plant. Final foundation design would incorporate mitigation measures designed to reduce impacts from moderate earthquake motions.

1.11.16 Paleontological Resources

Literature reviews, archival reviews, and pedestrian surveys did not provide evidence that any paleontological resources would be affected by the construction or operation of the MLGS.) Mitigation measures that would be implemented during construction would reduce potential impacts to a less-than-significant level.

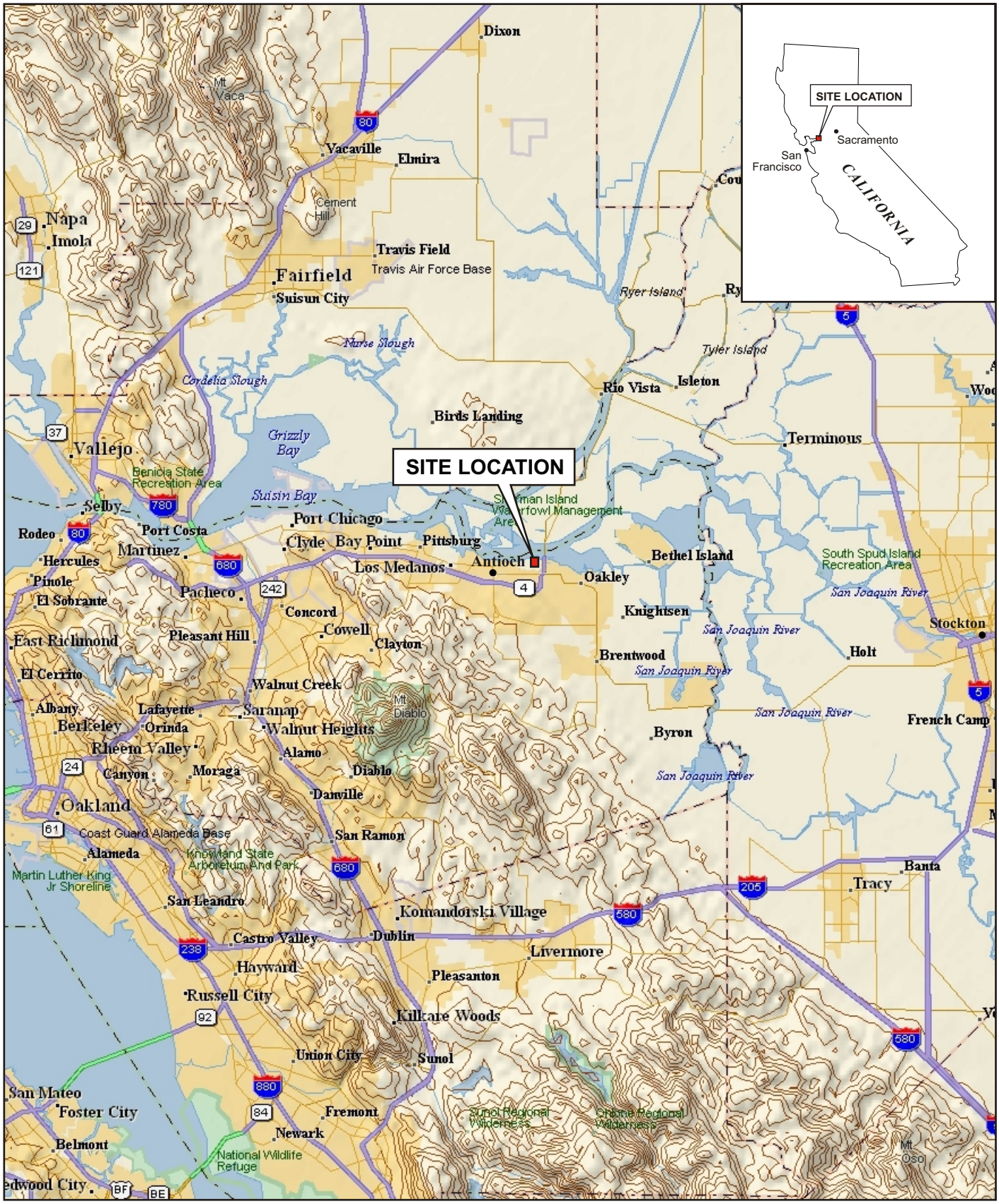
1.12 PROJECT ALTERNATIVES

A range of reasonable alternatives that could feasibly attain the objectives of the MLGS were identified and evaluated. These alternatives included:

- The "No Project" alternative (that is, not developing a new power generation facility);
- Alternative site locations for constructing and operating the MLGS, both within the existing property boundaries of the CCPP property and on vacant industrial sites;
- Alternative air pollution emission control technologies; and
- Alternative generation technologies.

The project site arrangement within the CCPP property was selected over other onsite configurations because of space constraints, distance from sensitive receptors, and cost-effectiveness. Offsite locations were rejected because these sites would require site acquisition by Mirant, longer offsite connections to transmission lines and gas lines, and would require additional construction due to the unavailability of shared facilities. In addition, these offsite locations would not reduce any unmitigated impacts associated with development of the preferred brownfield site.

To comply with the Bay Area Air Quality Management District's (BAAQMD's) BACT requirements for NO_X, the project's design includes ultra low NO_X combustion controls on the gas turbine and SCR to control NO_X emissions. To comply with BAAQMD's BACT requirements for CO, a CO catalyst will be employed. Other air pollution emission control technologies were evaluated and rejected due to lack of commercial availability, economic feasibility, and implementability. Alternative generation technologies were similarly evaluated based on commercial availability, implementability, and cost-effectiveness, and were rejected. The MLGS' use of dry-cooled technology and recycled water for process purposes is the most environmentally advantageous and economically feasible option.



Source:
Topo USA 5.0, 2004; www.delorme.com

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Scale in Miles

SITE VICINITY MAP

Marsh Landing Generating Station
May 2008 Mirant Marsh Landing, LLC
28067344 Contra Costa County, California

URS

FIGURE 1-1

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VIEW OF EXISTING CCPP FACILITY

May 2008
28067344

Marsh Landing Generating Station
Mirant Marsh Landing, LLC
Contra Costa County, California

URS

FIGURE 1-2

5/21/08 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\1.0 Introduction\1-2_existing facility.cdr

VIEW OF EXISTING CCPP FACILITY AND GATEWAY GENERATING STATION

May 2008
28067344

Marsh Landing Generating Station
Mirant Marsh Landing, LLC
Contra Costa County, California

URS

FIGURE 1-3

5/21/08 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\1.0 Introduction\1-3_exist+gateway.cdr

SIMULATION WITH PROPOSED PROJECT

May 2008
28067344

Marsh Landing Generating Station
Mirant Marsh Landing, LLC
Contra Costa County, California

URS

FIGURE 1-4

5/21/08 vsa ..T:\Mirant Contra Costa-Marsh Landing\Graphics\1.0 Introduction\1-4_simulation.cdr