

## CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000  
SAN FRANCISCO, CA 94105-2219  
VOICE AND TDD (415) 904-5200  
FAX (415) 904-5400



## RECORD PACKET COPY

Th3a

November 21, 2002

**TO:** Coastal Commissioners and Interested Parties

**FROM:** Jaime C. Kooser, Deputy Director  
Alison J. Dettmer, Manager, Energy and Ocean Resources Unit  
Dan Chia, Analyst, Energy and Ocean Resources Unit  
Tom Luster, Analyst, Energy and Ocean Resources Unit

**RE:** Review of Proposed Upgrade of the Morro Bay Power Plant

On December 12, 2002, Coastal Commission staff will brief the Coastal Commission on Duke Energy's proposed modernized and expanded Morro Bay Power Plant ("MBPP") being reviewed by the California Energy Commission ("CEC"). The proposed project is to (a) construct and operate two new 600-megawatt power generation units (for a total of 1,200 megawatts of electrical power) on the site of the existing power plant, and (b) dismantle and remove the existing power plant except for its intake and outfall lines. Duke proposes to continue to use ocean water and a once-through cooling system to cool the new electrical generators.

Pursuant to the Warren-Alquist Act, the CEC has sole permitting authority for locating or modifying power plants with a greater than 50-megawatt capacity, including those located in the coastal zone. Nevertheless, Coastal Act § 30413(d) expressly authorizes the Coastal Commission to participate in the CEC proceedings and provide findings with respect to specific measures necessary to bring the project into conformity with Coastal Act and local coastal program ("LCP") policies. Pursuant to section 25523(b) of the Warren-Alquist Act, the CEC must include those specific provisions in its final project decision unless it finds that they are infeasible or would cause greater environmental impacts.

Attached for the Coastal Commission's consideration is a draft letter and 30413(d) report to the CEC setting forth recommended findings on the proposed project's potential effects on coastal resources, a determination that the project as currently proposed does not conform to certain Coastal Act and LCP coastal protection and use policies, and recommended specific provisions that, if included as conditions of project approval, would allow the project to conform to the applicable Coastal Act and LCP policies. The Commission staff has focused on four key issue areas: (1) marine resources, water quality and environmentally sensitive habitat areas ("ESHA"), (2) visual impacts, (3) terrestrial biology and ESHA, and (4) public access and recreation. The most significant recommendation is that, based on the proposed facility's significant adverse impacts to the marine resources of Morro Bay, the CEC not approve the proposal unless these impacts are mitigated through the use of a dry cooling system. While this cooling system would result in conflicts with other policies of the Coastal Act (primarily visual resources), it would on balance be most protective of significant coastal resources and therefore would conform to applicable provisions of the Coastal Act.



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December 12, 2002

William J. Keese  
Commissioner and Presiding Member  
California Energy Commission  
1516 Ninth Street  
Sacramento, California 95814

**RE: Coastal Commission's 30413(d) Report for Proposed Duke Energy Morro Bay Power Plant Project**

Dear Mr. Keese:

Attached for the California Energy Commission's ("CEC") consideration is the Coastal Commission's assessment of the conformity of Duke Energy's proposed Morro Bay Power Plant project with the Coastal Act's Chapter 3 resource protection and use policies and the policies of the City of Morro Bay's certified local coastal program ("LCP"). The proposed project is to demolish the existing 1,002-megawatt plant, including its three 450-foot tall stacks, and replace it with a new 1,200-megawatt power plant. Duke proposes two new 600-megawatt combined cycle units to replace existing Units 1-4. Two 145-foot tall stacks are to extend from each unit (four stacks total). Duke proposes to continue to use the existing "once-through cooling" system (i.e., intake structure, seawater channels, and discharge canal) that would use seawater to cool the new steam turbine condensers.

Pursuant to the Warren-Alquist Act, the CEC has sole permitting authority for locating or modifying power plants with a greater than 50-megawatt capacity, including those located in the coastal zone. Nevertheless, section 30413(d) of the Coastal Act expressly authorizes the Coastal Commission to participate in the CEC's proceedings and provide findings with respect to specific measures to bring a power plant project located within the coastal zone into conformity with Coastal Act and LCP policies. Pursuant to section 25523(b) of the Warren-Alquist Act, the CEC must include those specific provisions in its final project decision unless it finds that they are infeasible or would cause greater adverse environmental impacts. Section 30413(d) of the Coastal Act requires that the Coastal Commission's report contain a consideration of, and findings regarding the following:

- (1) The compatibility of the proposed site and related facilities with the goal of protecting coastal resources.*
- (2) The degree to which the proposed site and related facilities would conflict with other existing or planned coastal-dependent land uses at or near the site.*

- (3) The potential adverse effects that the proposed site and related facilities would have on aesthetic values.*
- (4) The potential adverse environmental effects on fish and wildlife and their habitats.*
- (5) The conformance of the proposed site and related facilities with certified local coastal programs in those jurisdictions, which would be affected by any such development.*
- (6) The degree to which the proposed site and related facilities could reasonably be modified so as to mitigate potential adverse effects on coastal resources, minimize conflict with existing or planned coastal-dependent uses at or near the site, and promote the policies of this division.*
- (7) Such other matters as the Coastal Commission deems appropriate and necessary to carry out this division.*

The Coastal Commission has focused its Coastal Act §30413(d) review on four key issue areas: (1) marine resources, water quality and environmentally sensitive habitat areas ("ESHA"), (2) visual resources, (3) terrestrial biology and ESHA, and (4) public access and recreation.

As described in the attached report, the Coastal Commission has concluded that Duke's proposal to use a once-through cooling system, and to mitigate the significant adverse impacts of such a system with a Habitat Enhancement Program ("HEP") (dated August 30, 2002), does not conform to the marine resource and environmentally sensitive habitat area ("ESHA") policies of the Coastal Act and LCP. The Coastal Commission therefore agrees with the CEC staff recommendation that the project as proposed by the applicant be denied by the CEC.

Further, the Coastal Commission supports the CEC staff's finding that dry cooling is a feasible alternative to once-through cooling. Implementing a dry cooling system would eliminate all adverse estuarine impacts and therefore conform to the Coastal Act and LCP marine resource and ESHA policies. The CEC staff concludes that hybrid cooling is also a possible alternative cooling option for the site. The Coastal Commission finds, however, that since the City of Morro Bay will not provide the necessary reclaimed water for a hybrid facility, hybrid cooling is not a feasible option at this time.

The Coastal Commission acknowledges that while dry cooling will eliminate all adverse marine resource impacts, it will cause greater adverse visual impacts as compared to a once-through cooling design. A dry cooling facility would be visible as a single, large, elevated "boxy" structure that would appear quite massive from some foreground viewing locations. It would result in greater view blockages as compared to the proposed facility. For these reasons, a dry cooling facility does not conform to the Coastal Act and LCP visual protection policies.

Therefore, the dry cooling alternative creates a conflict between the marine resource/ESHA and visual policies of the Coastal Act. In such instances, section 30200(b) of the Coastal Act states

in relevant part "where the Coastal Commission...identifies a conflict between the policies of this chapter, Section 30007.5 shall be utilized to resolve the conflict..."

Section 30007.5 of the Coastal Act states:

*The Legislature further finds and recognizes that conflicts may occur between one or more policies of [this] division. The Legislature further declares that in carrying out the provisions of this division such conflicts be resolved in a manner, which on balance is most protective of significant coastal resources. In this context, the Legislature declares that broader policies, which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

Coastal Act § 30007.5 thus directs the Coastal Commission in resolving such a policy conflict to determine which alternative policy resolution is, on balance, most protective of coastal resources. In this case, dry cooling would *eliminate* a significant, long-term impact to marine biological resources in Morro Bay while increasing to some degree an already existing adverse visual impact. Once-through cooling, on the other hand, even with the proposed HEP, would not only continue but increase the facility's significant adverse impacts to marine biological resources, and would only reduce, but not eliminate, the facility's adverse visual impacts. Additionally, because Morro Bay is designated a State and National Estuary primarily for its habitat values, and is designated as ESHA at the local level, its marine biological resources are the predominant coastal resource of concern. Therefore, the Coastal Commission finds that, for purposes of sections 30007.5 and 30200(b) of the Coastal Act, dry cooling is, on balance, more protective of significant coastal resources because it eliminates the adverse impact to those resources. In light of the outcome of the Coastal Commission's conflict resolution analysis, in combination with implementation of the CEC staff's recommended visual conditions of certification (with some minor amended language proposed by the Coastal Commission), the Coastal Commission can find that the dry cooling alternative will conform to the Coastal Act and LCP visual protection policies.

Construction of the facility may impact environmentally sensitive habitat areas ("ESHA") and the species that reside there. While the dry cooling facility itself can be sited on a paved section of the existing plant site, the construction of the bridge, bike and pedestrian path and road improvements will impact ESHA. The location of the proposed staging and parking areas necessary to support plant construction may impact certain sensitive species like the Morro Bay shoulderband snail. The CEC staff is recommending a number of conditions of certification, which the Coastal Commission supports, that are designed to, among other things, avoid or minimize impacts to biological resources and mitigate impacts that do occur. The Coastal Commission also is recommending, for example, a new condition of certification that would require the applicant to redesign the road, and bike and pedestrian path, to eliminate the loss of .33 acres of coastal dune habitat. With the imposition of the CEC staff's proposed terrestrial biology conditions of certification, along with the additions recommended by the Coastal Commission, the Coastal Commission finds that the project will conform to the ESHA policies of the Coastal Act and LCP.

The Coastal Commission further finds that the project will be carried out in a manner that conforms to the public access and recreation policies of the Coastal Act and LCP. While the project will not block access to the beach, the multi-year industrial construction project and associated traffic may discourage beach goers and interfere with the beach experience. Duke is offering a number of access enhancements, including the construction of a Class I and Class II bike path and dedication of land to the City of Morro Bay for access and recreation improvements that the Coastal Commission supports. In addition, the CEC staff is recommending several access and recreation conditions of certification, which the Coastal Commission supports with some minor language modifications, to ensure that any project-related access and recreation impacts are minimized.

We are aware that the City of Morro Bay does not support the dry cooling alternative in part because it believes a dry cooling facility is inconsistent with the site's zoning designation, "Coastal-Dependent Industrial". The City argues that a dry cooling facility is not coastal-dependent because by definition it does not use ocean water and therefore does not require a site "on, or adjacent to, the sea to be able to function at all," as defined by Coastal Act § 30101. The Coastal Commission has a different interpretation of the project's "coastal-dependent" status. The facility is and will continue to be "coastal-dependent," regardless of whether the facility does or does not contain the design feature (once-through cooling) that was the basis for the original qualification of the facility as "coastal-dependent." The proposed project represents a modification and expansion of the existing, coastal-dependent facility. The CEC is processing the proposed project under the Warren-Alquist Act as a modification/expansion of an existing facility, rather than as a new facility. As such, the proposed project, regardless of the cooling-related design features it may, in the final analysis, contain, is one that, "in order to be able to function at all" for purposes of that term as it is used in the Coastal Act's definition of "coastal-dependent development or use," can by definition only be located on the site of the existing facility. The existing facility is located "on, or adjacent to, the sea." Therefore, the proposed project will under all conceivable circumstances be "coastal-dependent" within the meaning of that term as it is defined in the Coastal Act.

Even if the City were to prevail in its interpretation, and the dry cooling alternative is found to be inconsistent with the site's zoning designation, the applicant could avail itself of Coastal Act § 30515, which states:

*Any person authorized to undertake a public works project or proposing an energy facility development may request any local government to amend its certified local coastal program, if the purpose of the proposed amendment is to meet public needs of an area greater than that included within such certified local coastal program that had not been anticipated by the person making the request at the time the local coastal program was before the Coastal Commission for certification. If, after review, the local government determines that the amendment requested would be in conformity with the policies of this division, it may amend its certified local coastal program as provided in Section 30514.*

*If the local government does not amend its local coastal program, such person may file with the Coastal Commission a request for amendment which shall set forth the reasons why the proposed amendment is necessary and how such amendment is in conformity with the policies of this division. The local government shall be provided an opportunity to set forth the reasons for its action. The Coastal Commission may, after public hearing, approve and certify the proposed amendment it finds, after a careful balancing of social, economic, and environmental effects, that to do otherwise would adversely affect the public welfare, that a public need of an area greater than that included within the certified local coastal program would be met, that there is no feasible, less environmentally damaging alternative way to meet such need, and that the proposed amendment is in conformity with the policies of this division.*

In other words, the applicant could seek from the City an amendment to the LCP to change the zoning designation to accommodate a dry cooling facility. If the City objects to the zoning change, the applicant can then apply to the Coastal Commission. As required by Section 30515, the Coastal Commission will consider as part of its evaluation whether a denial of a zoning modification "would adversely affect the public welfare, that a public need of greater than that included within the certified local coastal program would be met" and "that there is no feasible, less environmentally damaging alternative way to meet such a need."

In closing, based on the proposed once-through cooling facility's significant adverse impacts to the marine resources of Morro Bay, the Coastal Commission finds that the project will not conform to the marine resource and ESHA policies of Coastal Act and LCP. We, therefore, recommend that the CEC deny the proposed project. If the CEC requires, however, that the facility be a dry cooling system, the project can be found consistent with the policies of the Coastal Act and LCP.

Thank you for your consideration of the Coastal Commission's findings and recommendations.

Sincerely,

SARA J. WAN  
Chair  
California Coastal Commission





# **Duke Energy Morro Bay Power Plant Modernization Project**

Coastal Act § 30413(d) Report  
Submitted by the  
California Coastal Commission  
to the  
California Energy Commission

December 12, 2002



# **Duke Energy Morro Bay Power Plant Modernization Project**

## **Staff Report to the Coastal Commission Regarding the Energy Commission's Application for Certification (AFC-00-12)**

*Reviewed pursuant to Coastal Act section 30413(d)*

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### **TABLE OF CONTENTS:**

<b>1.0 PROJECT DESCRIPTION, SETTING, AND BACKGROUND INFORMATION .....</b>	<b>2</b>
1.1 EXISTING FACILITY.....	2
1.2 PROPOSED PROJECT .....	2
<b>2.0 REGULATORY FRAMEWORK: CALIFORNIA ENERGY COMMISSION CERTIFICATION PROCESS .....</b>	<b>4</b>
2.1 ROLE OF THE COASTAL COMMISSION IN CEC REVIEW.....	4
2.2 INTERACTION OF THE CEC AND THE REGIONAL WATER QUALITY CONTROL BOARD .....	6
<b>3.0 COASTAL ACT AND LCP ISSUES .....</b>	<b>8</b>
3.1 MARINE RESOURCES, WATER QUALITY, AND ENVIRONMENTALLY SENSITIVE HABITAT AREAS.....	8
3.2 VISUAL RESOURCES.....	28
3.3 TERRESTRIAL BIOLOGY AND ENVIRONMENTALLY SENSITIVE HABITAT AREAS (ESHAS)...	34
3.4 PUBLIC ACCESS AND RECREATION .....	46
<b>EXHIBITS .....</b>	<b>53</b>
EXHIBIT 1 – VICINITY MAP .....	53
EXHIBIT 2 – SITE MAP .....	54
EXHIBIT 3 – SITE LAYOUT OF EXISTING FACILITY.....	55
EXHIBIT 4 – SITE LAYOUT OF APPLICANT'S PROPOSED FACILITY .....	56
EXHIBIT 5 – VIEW OF EXISTING FACILITY .....	57
EXHIBIT 6 – VIEW OF APPLICANT'S PROPOSED FACILITY.....	58
EXHIBIT 7 – VIEW OF TYPICAL DRY COOLING STRUCTURE.....	59
<b>SUBSTANTIVE FILE DOCUMENTS .....</b>	<b>60</b>

## 1.0 PROJECT DESCRIPTION, SETTING, AND BACKGROUND INFORMATION

### 1.1 Existing Facility

The Morro Bay Power Plant (MBPP) is an existing 1,002-megawatt (MW) electrical generating facility located in the City of Morro Bay, covering about 107 acres close to the Morro Bay harbor and estuary. It is owned and operated by Duke Energy (hereafter, either "the applicant" or "Duke"), who purchased the facility from Pacific Gas & Electric in 1998. The MBPP borders Embarcadero Road on the west and Highway 1 on the east (see Exhibit 1, Vicinity Map, and Exhibit 2, Site Map). The plant is adjacent to the existing 24-acre Pacific Gas & Electric (PG&E) Morro Bay Switchyard.

The MBPP includes four electrical generating units – Units 1 and 2 produce 326 MW, and Units 3 and 4 produce 676 MW. The units are cooled using a "once-through cooling" process in which seawater from the Morro Bay estuary is pumped through the facility, past the generating units to remove excess heat, and then discharged to Estero Bay, immediately adjacent to the north side of Morro Rock.

The MBPP is considered "coastal dependent", due largely to its use of ocean water for cooling. Additionally, pursuant to Coastal Act section 30413(b), the Commission has not designated the site as unsuitable for the presence and reasonable expansion of the MBPP. The original owner, PG&E, built the facility in several stages from 1951 to 1963. The site was selected in large part due to the availability of seawater used to cool the generating units. The facility's cooling water intake structure is located across Embarcadero Road on the Morro Bay estuary, which houses eight cooling water pumps and related auxiliary equipment. The facility is currently authorized to use up to 668 million gallons per day (MGD) of ocean water for cooling; however, in recent years, its actual use has been much lower.

Other facility-related structures on site include five fuel oil storage tanks, one displacement oil tank, three 450-foot tall exhaust stacks, a large steam boiler, turbine generator building, and ancillary buildings and equipment (see Exhibit 3, Site Layout of Existing Facility). The site also includes Leila Keiser Park, Morro Dunes RV Park and RV storage, and a fishing gear and boat storage facility.

### 1.2 Proposed Project

The applicant proposes to demolish the existing 1,002 MW plant, including the plant's three 450-foot tall exhaust stacks, and replace it with a new 1,200 MW power plant. The new facility would be used to provide "intermediate load" electrical generating capacity, based on market demand. It would be constructed on the site of the existing oil fuel tanks. The four existing generating units would be replaced by two new 600 MW combined cycle generating units, consisting of two gas-fired turbines and one steam turbine driven by heat produced by the gas turbines. Each unit will include two 145-foot tall exhaust stacks (see Exhibit 4, Site Layout of Applicant's Proposed Facility).

The new facility will connect to the existing PG&E Morro Bay Switchyard. No new transmission lines are necessary with the exception of short generation ties to convey power to the switchyards. The applicant would also make minor equipment modifications at the existing switchyard to accept the power.

The applicant proposes to continue using the "once-through cooling" system, and would rely on the existing cooling water intake structure, seawater channels, and discharge canal. New cooling water pumps would be installed in the intake structure and connections will be made inside the plant property to reroute the seawater to the new units. The new facility would use a maximum of 475 mgd of seawater. Freshwater use for routine operations will demand roughly 10,000 gallons per day (gpd) from existing onsite wells.

The proposal also includes construction of temporary support facilities to be used only during construction including on and off-site employee parking areas and on and off-site construction staging and lay-down areas. Two on-site parking areas will be located in the southwestern and northeastern portions of the property. Offsite employee parking for 150-200 vehicles will be created on ten acres of farmland located approximately three miles southeast of the MBPP and adjacent to Highway 1 in San Luis Obispo County. The off-site construction staging area is proposed to be located on three parcels totaling 40 acres at Camp San Luis Obispo, a State of California military training base, located approximately eight miles southeast of Morro Bay.

Other features of the proposed project include:

- Installing a bridge (24 feet wide, 130 feet long) over Morro Creek to provide access to the construction site;
- Upgrading and paving Embarcadero Road Extension (to 36-feet in width) for construction access;
- Constructing bike and pedestrian paths (approximately 5,261 and 3,094 feet of Class I and II bike paths, respectively);
- Constructing a new 100-foot long, 24-foot wide road spur near the terminus of Embarcadero Road Extension to provide construction access to the plant site, and a road segment to connect the Embarcadero Extension to Coleman Drive;
- Constructing a 20-foot high sound wall on the northern earthen berm separating the new plant from Morro Creek and Morro Dunes RV Park;
- Installing an eight-foot wide foot bridge over Willow Camp Creek to provide access to the plant from an on-site parking area;
- Providing landscaping and vegetative screening;
- Refurbishing the existing cooling water intake structure in Morro Bay; and,
- Constructing two 40-foot long, 12-inch high-pressure gas pipelines under Willow Camp Creek by horizontal directional drilling to connect to an existing gas pipeline.

Project construction would be done in three phases: Phase I would include demolishing the tank farm and would take roughly three months; Phase II would involve constructing the new power plant and would last approximately 21 months; and Phase III would include demolishing the three stacks and would occur after the start of the new plant's commercial operation. Phase III is expected to take no longer than 36 months. Assuming project construction begins in late 2002, commercial operation of the plant would begin in late 2004, and all construction and demolition is expected to be complete by year 2007-08. The capital cost of the proposed project is expected to be approximately \$650 million.

## **2.0 REGULATORY FRAMEWORK: CALIFORNIA ENERGY COMMISSION CERTIFICATION PROCESS**

Pursuant to the Warren-Alquist Act, the CEC has exclusive siting authority over thermal electric power plants of 50 megawatts or greater capacity proposed to be built in California. According to section 25500 of the Warren-Alquist Act, "The issuance of a certificate by the [Energy] commission shall be in lieu of any permit, certificate, or similar document required by any state, local or regional agency, or federal agency to the extent permitted by federal law, for such use of the site and related facilities, and shall supersede any applicable statute, ordinance, or regulation of any state, local, or regional agency, or federal agency to the extent permitted by federal law." [Note: this does not apply to NPDES permits issued by the State or Regional Water Quality Control Boards, as described below.]

Section 25523(a) of the Warren-Alquist Act additionally requires the CEC to assess the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety. Moreover, in section 25523(d)(1), the Warren-Alquist Act requires that the CEC make findings regarding the conformity of the proposed project with all applicable laws, including federal laws, such as the Coastal Zone Management Act.

The CEC evaluates and makes its determination regarding proposed facilities through its Application for Certification (AFC) process. During this process, the CEC reviews all aspects of the proposed project and must satisfy responsibilities similar to those of a lead agency under the California Environmental Quality Act (CEQA). The CEC's review is considered the functional equivalent of CEQA. The CEC must issue its final decision on an AFC within 12 months after the AFC is deemed data adequate, or at a time mutually agreed upon by the CEC and the applicant.

### **2.1 Role of the Coastal Commission in CEC Review**

While the CEC has exclusive jurisdiction over siting proposed power plants as described above, both the Coastal Act and the Warren-Alquist Act provide for a role for the Coastal Commission to play in the CEC's review of power plants proposed to be located in the coastal zone. Both Acts include mechanisms authorizing the Coastal Commission to evaluate whether the proposal conforms to Coastal Act policies and to inform the CEC of the results of this evaluation.

Section 30413(d) of the Coastal Act requires the Coastal Commission to 1) "participate in proceedings" that the CEC undertakes pursuant to its siting authority "with respect to any thermal powerplant...to be located...within the coastal zone," and 2) submit to the CEC a report (hereinafter, the "30413(d) report") on the proposed project's conformity with the Coastal Act's resource protection and use policies, and the policies and implementing ordinances of the certified local coastal program ("LCP") (in this case, the City of Morro Bay's certified LCP). Furthermore, section 25523(b) of the Warren-Alquist Act requires the CEC to include in its decision on the AFC "specific provisions" specified by the Coastal Commission in the 30413(d) report to bring the proposed project into conformity with the policies of the Coastal Act. The specific provisions of the Coastal Commission's report may be omitted from the CEC's decision only if the CEC finds that adopting the provisions would result in greater adverse impact on the environment or that such provisions would not be feasible.

Coastal Act section 30413(d) directs that the Coastal Commission's report consider and make findings regarding the following:

- (1) The compatibility of the proposed site and related facilities with the goal of protecting coastal resources.*
- (2) The degree to which the proposed site and related facilities would conflict with other existing or planned coastal-dependent land uses at or near the site.*
- (3) The potential adverse effects that the proposed site and related facilities would have on aesthetic values.*
- (4) The potential adverse environmental effects on fish and wildlife and their habitats.*
- (5) The conformance of the proposed site and related facilities with certified local coastal programs in those jurisdictions, which would be affected by any such development.*
- (6) The degree to which the proposed site and related facilities could reasonably be modified so as to mitigate potential adverse effects on coastal resources, minimize conflict with existing or planned coastal-dependent uses at or near the site, and promote the policies of this division.*
- (7) Such other matters as the commission deems appropriate and necessary to carry out this division.*

This report is the Coastal Commission's analysis of the proposed project's conformity with the Chapter 3 policies of the Coastal Act and the certified LCP. For this proposed project, the Coastal Commission has focused on the following issue areas: (1) marine biological resources and water quality; (2) environmentally sensitive habitat areas (ESHA) and terrestrial biological resources; (3) public access and recreation; and (4) visual resources. Throughout the AFC proceeding, Commission staff has participated and testified in public hearings and workshops, submitted written comments, and worked with the Applicant, CEC staff, City of Morro Bay staff,

other resource agencies, and members of the public to address Coastal Act policy areas of concern. The Coastal Commission's analysis relies principally on the information contained in the CEC staff's Final Staff Assessment ("FSA") and in the evidentiary record for the AFC proceeding that has been compiled thus far.

## **2.2 Interaction of the CEC and the Regional Water Quality Control Board**

The existing facility operations are subject to an NPDES permit issued by the Central Coast Regional Water Quality Control Board (RWQCB). The proposed project will require a modification of that permit. The current NPDES permit includes conditions related to water quality, intake limits, discharge limits, monitoring requirements, and compliance with state and federal water quality standards.

As stated above, the Warren-Alquist Act preempts most statutes, ordinances, or regulations of any state, local, or regional agency, or federal agency to the extent permitted by federal law. However, a CEC certification or approval of a power plant does not preempt any permit required by federal law. The federal Clean Water Act requires the MBPP obtain a NPDES permit. Pursuant to the federal certification of the RWQCB's NPDES program, the Environmental Protection Agency delegated the authority to issue NPDES permits to either the RWQCBs or the State Water Resources Control Board. The CEC review includes within its scope the proposed project's effects on water quality and aquatic organisms, and thus overlaps with the review done by the RWQCB. However, the RWQCB is limited to reviewing the proposal under the state's Porter-Cologne Water Quality Act and the federal Clean Water Act, while the CEC's review is meant to determine the proposed project's conformity with all applicable laws and requirements. In some instances, therefore, the CEC could find that the proposed project as regulated by an NPDES permit does not adequately comply with other applicable laws and could decide not to approve the proposal. The CEC does not have the ability, however, to modify or preempt a facility's NPDES permit.

**RWQCB compliance with CEQA:** When issuing a NPDES permit for a discharge from a "new source", as defined in Clean Water Act §306, which is the category in which the proposed facility falls, the RWQCB must comply with the California Environmental Quality Act (CEQA). As a responsible agency under CEQA, the RWQCB relies on the functionally equivalent CEQA review process of the CEC as lead agency and makes its findings on the NPDES permit based in part on the CEC's analysis.

This means that the RWQCB cannot finally issue its NPDES permit until the CEC issues its final decision. At the same time, the CEC must find that the proposed project, as governed by the NPDES permit, complies with all local, state and federal laws. To resolve this potential conundrum, in October 2000 the RWQCB staff issued a "Draft Administrative NPDES permit", which is subject to the issuance of the CEC's final decision and adoption of CEQA findings, as well as any further review by the RWQCB. After the CEC's decision, the RWQCB will issue the final NPDES permit and adopt CEQA findings.



### 2.3 CEC Application for Certification Review Process

The applicant filed its AFC (#00-AFC-12) for the MBPP in August 1999 but voluntarily withdrew it in October 1999 in response to concerns expressed by the City of Morro Bay (the City) and its residents. Beginning in November 1999 and continuing through February 2000, the City in coordination with the Applicant sponsored 11 public workshops, hearings, and site visits to allow for public input towards a new project and AFC. In February 2000, both parties entered into a memorandum of understanding (MOU) that identified goals, created a public participation process, and established mutual agreements and commitments by the Applicant for a newly designed power plant modernization project. In the MOU, the Applicant agrees to, among other things, demolish the existing plant, including the three 450 foot stacks, and replace it with a modern facility that is physically smaller, located farther from the City's waterfront, and use state of the art technology. The MOU also provides for a collaborative "Pre-Application Process" consisting of 1) consultation between the City and the Applicant on specific and technical project elements, 2) City recommendations to the Applicant on specific issue areas, and 3) multiple venues for public outreach and comment.

Subsequently, the City also worked with the Applicant to include in the project additional measures, including 1) completing the project in a single phase over a seven-year period, 2) demolishing the on-site fuel oil tank farm, 3) refurbishing an existing cooling water intake building, 4) cooperating with the City to implement its Waterfront Master Plan which provides for bicycle and pedestrian paths, boardwalks, landscaping, and designation of lands for public use, and 5) negotiating a revenue agreement to help stabilize and enhance City revenues.

In October 2000, the Applicant filed with the CEC an amended AFC that incorporates the above-described commitments to the City. In December 2000, the CEC found the AFC data adequate. Following several months of review, the CEC staff published its Final Staff Assessment (FSA) in three parts:

- Part I (November 2001): analyzed air quality, hazardous materials, noise and vibration, public health, socioeconomic resources, traffic and transportation, transmission line safety and nuisance, visual resources, waste management, and worker safety;
- Part II (December 2001): analyzed cultural resources, land use, and soil and water resources; and,
- Part III (April 2002): analyzed marine and terrestrial biological resources, including a cooling options section, and alternatives. In this part of the FSA, the CEC staff recommended that the project not be approved as proposed, due to its significant adverse impacts on the Morro Bay marine biological community. CEC staff determined that dry cooling and hybrid cooling systems appeared to be feasible alternatives that would mitigate for those impacts.

Subsequently, the CEC charged its staff, the applicant, and the various involved parties to develop and consider a "Habitat Enhancement Program" ("HEP") that might provide adequate mitigation for the identified impacts. The applicant submitted a HEP in August 2002, and the CEC has since held workshops and hearings on the proposed HEP. The CEC's "Presiding Member's Proposed Decision" ("PMPD") is expected sometime in early 2003. The PMPD would be followed by a 30-day public comment period, and the final CEC decision on the proposal is expected shortly after the comment period ends.

### 3.0 COASTAL ACT AND LCP ISSUES

This report evaluates the proposed project for conformity with the Coastal Act policies and City of Morro Bay's LCP policies related to (a) marine resources and water quality, (b) visual resources, (c) terrestrial biological resources and environmentally sensitive habitat areas (ESHA), and (d) public access and recreation.

#### 3.1 Marine Resources, Water Quality, and Environmentally Sensitive Habitat Areas

Coastal Act § 30230 states:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act § 30231 states:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Applicable City of Morro Bay LCP/LUP Policies:

CLUP, Chapter 11.C. – Sensitive Habitat Areas:

[This chapter identifies areas and particular habitat types of Morro Bay and its estuary as ESHA and discusses the issues, constraints, and policies related to this designation.]

Policy 11.01:

*Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas... Developments permitted within wetland and/or buffer areas are limited to the uses listed in Section 30233(c) of the Coastal Act.*

Policy 11.02

*Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall maintain the habitats' functional capacity.*

Policy LU-39.1/CLUP 5.01:

*The City shall designate the existing PG&E parcel and the Chevron pier parcel as coastal-dependent industrial uses. Any proposals for energy-dependent industrial uses within zones designated for general industrial development will require an amendment to the land use plan consistent with Section 30515 of the Coastal Act. Power plant expansion on PG&E owned property shall have priority over other coastal dependent industrial uses. Power plant expansion shall be limited to small facilities whose location would not further affect the views of Morro Rock from State Highway One and high use visitor-serving areas, consistent with Policy 12.11 of the LCP.*

**3.1.2 Description of Setting and the Existing Facility**

Setting: The Morro Bay estuary is located near the middle of Estero Bay in San Luis Obispo County. It is a shallow lagoon of approximately 2,500 acres, and is sheltered from the open ocean by a sandspit and a constructed breakwater. The watershed drains an area of roughly 48,000 acres or 75 square miles.

The primary types of habitat in the Bay are coastal wetlands, including salt, brackish, and freshwater tidal marshes, intertidal mud/salt flats, open water, deepwater channels, rocky subtidal and intertidal zones, riparian corridors and woodlands. All of these provide highly productive, diverse, and dynamic habitats. Distinct habitats present in Estero Bay include sandy beach, rocky intertidal and subtidal zones, and open water areas.

Morro Bay is considered the most significant wetland system on California's south central coast. It serves as a critical link of the Pacific Flyway by providing important habitat for resident and migrating shorebirds and waterfowl. The Audubon Society has ranked Morro Bay as one of the top five areas out of nearly 1,000 sites nationwide for diversity of winter bird species. For example, 200 different bird species have been identified using the Bay during a single day in December, including approximately 25,000 black brants.

The Bay is home to a diverse collection of fish and wildlife species, many of which are rare, threatened, endangered, and/or endemic to the bay. For example, the estuary serves as resident and nursery habitat for the federally endangered tidewater goby (*Eucycloglobius newberryi*) and the steelhead trout (*Oncorhynchus mykiss*), and other fish and shellfish. Other examples of federally threatened or endangered species that depend on the estuary and its watershed for their survival and recovery include: snowy plover, brown pelican, California black rail, California red-legged frog, Least Bell's vireo, Morro shoulderband snail, Southern sea otter, California clapper rail, Southwestern Willow Flycatcher, and the Morro Bay kangaroo rat.

Morro Bay supports a diverse and wide range of marine organisms including fish, shellfish, invertebrates, and other taxa (e.g., phytoplankton, zooplankton, jellyfish). It supports recreational and commercial fisheries, and also provides commercial shellfish harvests.

Morro Bay also includes the largest eelgrass beds in the southern part of the state, with dense stands located in the lower intertidal areas and shallow channels within the Bay. These beds are a complex and highly productive environment, serving as a spawning and nursery ground for many species of fish (e.g., halibut, English sole, topsmelt, shiner perch, speckled sanddab, plainfin midshipmen, arrow and bay goby), and larger invertebrates (e.g., bay shrimp, spiny cockle, nudibranchs, cancer crabs, yellow shore crab). The dense foliage serves a number of functions such as substrate for epiphytic flora, fauna, and microbial organisms that decontaminate the bay's water, and as a moderator of current and wave action, allowing suspended sediments and organic particles to settle, thereby improving water quality. Moreover, the eelgrass habitat in Morro Bay is the only significant eelgrass habitat in central and southern California available to the black brant during its annual migration to and from Mexico.

Despite the above information on Morro Bay's habitats and species composition, there is a consensus among resource and regulatory agencies that no long-term studies on the bay's fish or animal populations adequately describe with scientific certainty the bay's species composition and abundance.

Nonetheless, this unique region and its marine resources are recognized on a local, statewide, and national level for their ecological importance. In April 1994, Morro Bay became California's first State Estuary, and then was designated part of the National Estuary Program in October 1995. Morro Rock, the northern base of which is adjacent to the thermal outfall of the existing plant's once-through cooling system, has been designated as the Morro Rock Natural Preserve within Morro Bay State Park. Other nearby areas of special ecological significance include Heron Rookery Natural Preserve, Los Osos Oaks State Reserve, Los Osos Creek Mouth, Morro Bay Sand Spit Natural Reserve, Morro Dunes Ecological Reserve, Sweet Springs Marsh, and Chorro Creek.

Notwithstanding the above designations, Morro Bay faces contemporary stresses such as accelerated sedimentation rates, bacteria contamination, nutrient overenrichment, loss of freshwater flow during dry seasons, habitat loss, and a decline in steelhead populations (MBNEP, 2001). The RWQCB has listed Morro Bay on the state's list of impaired waterbodies due to sedimentation, metals, and pathogens.

**Existing Facility:** The existing facility includes four electrical generating units that can produce up to 1002 MW – Units 1 and 2 produce 326 MW, and Units 3 and 4 produce 676 MW. The units are cooled with seawater from Morro Bay using a “once-through cooling” process in which seawater is pumped through the facility and past the generating units to remove excess heat, then discharged to Estero Bay, immediately adjacent to the north side of Morro Rock. The intake structure includes traveling screens to reduce the amount of fish, invertebrates and debris drawn into the facility, and uses eight pumps to move water through the system. The discharged cooling water moves through three separate underground tunnels, then into a surface canal before entering Estero Bay. The facility is currently authorized to use up to 668 million gallons per day (mgd) of ocean water; however, in recent years, its actual use has averaged about 387 mgd.

### ***3.1.3 Applicant's Proposed Project and Mitigation***

The project as proposed would replace the four existing generating units with two units nominally rated at 600 MW and would continue to rely on the existing cooling water intake structure, seawater channels, and discharge canal. New cooling water pumps would be installed in the intake structure and connections will be made inside the plant property to reroute the seawater to the new units. The new facility is anticipated to use a daily average of approximately 370 mgd, a maximum daily rate of 475 mgd of seawater, and would operate an additional 30 to 50 years beyond the anticipated economic life of the existing facility.

At the time the applicant submitted the AFC to the Energy Commission, the applicant stated that the proposed project would not result in any significant adverse impacts to the marine biological resources of Morro Bay, because the new plant would use less ocean water than the current facility is permitted to use pursuant to the maximum allowable discharge allowed in its NPDES permit<sup>1</sup>. However, the applicant also proposed the following measures as mitigation for possible impacts to marine biological resources:

- Install water pumps that would allow a variable flow of water to match the cooling demand.
- Provide \$50,000 annually to the Morro Bay National Estuary Program.
- Install a “demonstration aquatic filter barrier (AFB)”. The AFB would consist of a fabric filter apparatus placed over the intake structure to reduce the number of organisms drawn into the cooling system. The applicant would submit a demonstration AFB program after the Energy Commission’s approval and after any appeals of that approval and of the facility’s NPDES permit were concluded. The goal of the AFB would be to reduce entrainment by 70%. The program would include monitoring to determine the actual level of reduction and a sliding scale incentive program to fund habitat enhancement if the AFB did not reduce entrainment to the 70% target level. If the AFB proved to be

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<sup>1</sup> The facility’s current permitted use is up to 668 mgd, and the proposed facility would use up to 475 mgd. The Energy Committee determined that for purposes of this AFC review, the facility’s baseline water use would be based on its average daily use during the period 1996-2001, which was 387 mgd.

infeasible or unsuccessful, or if the applicant could not obtain the necessary permits to install and operate the AFB, the applicant would provide \$5 million for habitat enhancement. If the AFB was partially successful, but did not reach the 70% reduction goal, the applicant would provide some percentage of the \$5 million for habitat enhancement.

### ***3.1.4 Marine Biological Resource Impacts of the Proposed Project***

After the AFC was submitted, the applicant completed studies required pursuant to sections 316(a) & (b) of the federal Clean Water Act meant to provide quantitative data about the facility's impacts on marine biological resources. Section 316(a) of the Act requires the thermal component of cooling water discharges be limited to levels that protect aquatic organisms. Section 316(b) of the Act requires the discharger to complete studies to determine the adverse impacts of the cooling water intake on water quality and aquatic organisms, and to assist in determining the "best technology available" to minimize these impacts.

The studies evaluates impacts to marine organisms due to entrainment, impingement<sup>2</sup>, and the increased temperatures of the facility's discharge. To assess the effects of the proposed project, RWQCB staff convened a multi-agency Technical Working Group to oversee a yearlong study of the existing plant's entrainment and impingement impacts on marine resources. The RWQCB hired two independent scientists to assist in study design and interpretation of the results. The Energy Commission hired a third expert to participate in the study. Agency representatives included staff from the RWQCB, Energy Commission, Coastal Commission (non-technical), California Department of Fish and Game, and the National Marine Fisheries Service. The entrainment/impingement studies were completed in July 2001, and the thermal impact study, Morro Bay Power Plant Modernization Project, Thermal Discharge Assessment Report, was completed in May 2001.

Entrainment Impacts: the 316(b) study provides quantitative data about the facility's impact to marine biological resources. The Technical Working Group determined that it would be overly burdensome to determine impacts to all entrained species; therefore, the study focused on the Bay's most abundant fish species (including various goby species, Pacific staghorn sculpin, Northern lampfish, blennies, jacksmelt, and various rockfish) and 6 crab species (primarily several species of rock crab) to serve as representatives for all the species entrained.

The data show that the facility's proposed use of once-through ocean water at an assumed rate of 427 mgd would result in a 17 to 33 percent average proportional entrainment loss of the representative species (the proportion of the larvae entrained at the facility relative to the amount produced in the estuary). The studies also determine that the maximum proportional losses were

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<sup>2</sup> Entrainment occurs when small aquatic organisms, such as fish and shellfish larvae, small invertebrates, etc., are drawn through the intake system past the intake screens and are killed due to pressure or heat changes in the cooling system. Impingement occurs when larger organisms are drawn into the intake and are trapped against the intake screens. Both impacts occur roughly in proportion to the amount of cooling water used and the water velocity at or near the intake, and will vary seasonally or daily based on the specific types of organisms present in the waterbody.

higher for certain species, ranging from 43 to 72 percent. Additionally, the data show that Morro Bay is primarily a "positive" estuary, in that during most of the year, larvae produced in the Bay are exported to the surrounding coastal waters. The study does not determine the effects of the loss of these representative species on the overall aquatic community in Morro Bay, nor does it determine the effects of the loss on the larger coastal ecosystem outside of the Bay; however, it assumes that the scale of loss caused by the facility's entrainment would adversely affect the population dynamics of the marine biological communities.

Impingement Impacts: The facility cooling system causes impingement when fish and invertebrates are trapped and crushed against the screens used at the intake structure to prevent debris and organisms from entering the system.

Similar to the entrainment study, the 316(a) impingement study is based on using the most commonly impinged species as representatives of all impinged species. Species most impinged, either by weight or abundance, were the Northern anchovy, topsmelt, midshipmen, thornback, squid, octopus, and various crab and shrimp species. Based on samples taken during the study period from September 1999 to September 2000, and extrapolated to an anticipated daily average flow of 427 mgd, the study concludes that the facility would impinge roughly 74,000 fish (about 2500 pounds) and 55,000 invertebrates (about 800 pounds) per year. This scale of impact is believed to be not biologically significant in and of itself, but is part of the cumulative impacts of the facility and other stressors on Morro Bay.

Also similar to the entrainment study, this study does not evaluate how impingement losses affected the overall population dynamics or community structure in Morro Bay, but does note a general decline in overall population numbers in Morro Bay, possibly due to habitat losses or other conditions.

Impacts of the Thermal Discharges: The applicant's study of thermal impacts showed that the existing discharge has altered the rocky intertidal habitat along approximately 600 feet of Morro Rock, but that the alterations do not appear to be significant. The RWQCB anticipates that the plume from the proposed facility would likely be similar or smaller in size than the current plume and would likely have lower average temperatures, and would therefore not result in significantly different impacts than currently occur.

The current NPDES permit allows the facility to discharge cooling water at a maximum temperature of 30° F above the ambient water temperature at the intake. The extent of the plume differs greatly due to influence by wind, waves, tides, currents, and the amount of the discharge.

Similar to the impingement study above, the FSA concludes that the thermal impacts are in and of themselves not significant. However, it also concludes that they are chronic and undesirable, and are part of the cumulative adverse impacts this facility contributes to Morro Bay.

**Indirect and Cumulative Impacts:** The proposed facility would also contribute to the indirect and cumulative adverse impacts occurring in Morro and Estero Bays. The loss of significant proportions of the representative species identified in the studies above are likely to change the trophic structure and ecosystem dynamics of the waterbodies. These changes are likely even with the high reproductive and dispersal rates of many of those species.

Additionally, the impacts associated with the proposed once-through cooling system are anticipated to continue for 30 to 50 years. As noted previously, Morro Bay is currently experiencing degradation due to numerous stressors in its watershed, and the cumulative adverse effect of the direct and indirect impacts noted above is likely to increase as these stressors continue.

### ***3.1.5 FSA Analysis and Recommended Conditions of Certification***

In April 2002, the Energy Commission staff issued the FSA on aquatic biological resources. It was based in part on the studies described above and on an independent evaluation of several of the proposal's impacts and mitigation options. The FSA concludes that the project as proposed would result in significant adverse impacts to Morro Bay's marine organisms, as described above, and therefore recommends the project not be approved as proposed. It also concludes that there are feasible alternatives to the proposed project that would entirely mitigate those adverse impacts.

The FSA considers a number of alternatives and additional mitigation measures to avoid or reduce impacts to the marine environment. These include:

- **Habitat enhancement:** The FSA discusses the use of habitat enhancement as a mitigation measure, but dismisses it for the following reasons:
  - o Habitat enhancement would not directly eliminate or reduce the adverse impacts caused by once-through cooling. The FSA states that it is particularly important to avoid impacts in Morro Bay, if possible, rather than minimize or compensate for them, due to the Bay's designation as a State and National Estuary.
  - o It may be difficult to acquire suitable habitat for restoration in or near Morro Bay.
  - o It would be difficult to evaluate the suitability of habitat enhancement given the long-term nature of the impacts of once-through cooling.
  - o It would be difficult to determine whether habitat enhancement would be effective to mitigate the impacts.
  - o It would require extensive annual monitoring of a number of environmental factors, along with the possibility of requiring additional mitigation later.
- **Alternative cooling water intake and discharge locations and designs:** The FSA also considers whether relocating or redesigning the intake/discharge structures would reduce adverse impacts. Regarding alternative locations, the FSA's conclusion is that extending the intake or discharge pipes further offshore would likely do little more than shift the impacts to a different location or cause other additional impacts.



Regarding alternative designs, the FSA evaluates physical barriers, such as aquatic filter barriers as described above, as well as traveling screens, fish return systems, and others, but determines that they are either ineffective, infeasible, or do not adequately address the impacts associated with both entrainment and impingement. The FSA also evaluates behavioral barriers, such as strobe lights, air bubble curtains, and underwater sound generators, and determines that such barriers are not likely to be effective or feasible in reducing impacts.

- Alternative cooling technologies: The FSA evaluates whether there are feasible alternatives to the once-through use of ocean water to provide the necessary cooling for the generating units. The FSA specifically evaluates several variations of dry cooling, closed-cycle wet cooling, and hybrid cooling methods, and concludes that particular configurations of both dry and hybrid cooling appear feasible. Each option would cause adverse effects on some resources (e.g., visual, noise, etc.) that would have to be mitigated, but the FSA concludes that use of either the dry or hybrid cooling method would completely eliminate the significant adverse direct entrainment effects on marine organisms and the adverse effects associated with impingement and thermal discharges.

Alternative cooling options considered in the FSA include:

- Closed-cycle wet cooling: This system recirculates water (fresh, reclaimed, or seawater) through cooling towers to remove heat. The FSA concludes that this technique would not be feasible for this facility, because the supplies of fresh or reclaimed water in the area are inadequate, and the impacts associated with using seawater would be similar to those associated with once-through cooling.
- Dry cooling: Dry cooling systems use fans to blow air over a radiator system to remove heat. These systems are usually enclosed in a large box-like structure containing the fans and the heat exchangers. The structures are generally larger than other systems needed to cool an equivalent-sized electrical generating unit. Dry cooling is used at several power plants in California. Dry cooling systems require very little water compared to the other systems considered, but generally require mitigation measures for adverse noise and visual impacts.

The efficiency of dry cooling systems in removing heat is affected by ambient air temperature, humidity, and the rate of air flow through the system. Generally, dry cooling systems operate more efficiently at lower ambient temperatures due to the higher differential between the ambient temperature and the source heat being removed. As the ambient temperature increases, the capacity of a generating unit declines<sup>3</sup>.

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<sup>3</sup> For example, the applicant provided an analysis showing the proposed facility using dry cooling would generate 1200 MW at 55°F, 1100 MW at 64°F, and 1000 MW at 74°F.

The proposed facility's location on Morro Bay is considered suitable for dry cooling under most weather conditions experienced at the site. The FSA evaluates the applicant's anticipated operations and the local weather conditions and concludes that the facility would be able to generate the anticipated levels of electrical production under most conditions. The FSA states that while the facility using dry cooling would not be able to produce the full nominal-rated output of 1,200 MW under all conditions, it would still meet the proposal's basic objective to replace the existing power plant with a more efficient and modernized facility.

The FSA also evaluates the size constraints at the facility site to determine whether a dry cooling system would fit on the site. A dry cooling system large enough to allow electrical generation at 1,200 MW under all weather conditions at the site would require more than the available space; however, based on the analysis above showing that full capacity under all conditions was not necessary, the FSA concludes that an appropriate sized dry cooling system would fit on the existing site.

- Hybrid cooling: A hybrid cooling design combines wet and dry cooling systems. These systems vary depending on facility- and site-specific parameters, such as weather conditions, water availability and cost, space constraints, and others. Advantages of hybrid cooling include its use of much less water than once-through cooling, and its greater efficiency compared to dry cooling. However, hybrid cooling systems require more room than once-through systems and often produce a visible evaporative plume that may cause adverse visual impacts.

The FSA determines that hybrid cooling would be feasible for the proposed facility. It considers several alternative designs, but based on the area's shortage of freshwater and the continued emphasis on avoiding the use of ocean water and its associated impacts, the FSA concludes that a system using treated reclaimed water from the Morro Bay – Cayucos Wastewater Treatment Plant would be feasible. This option would require additional treatment to ensure the water is of sufficient quality to use in the hybrid cooling system, and construction of a pipeline between the treatment plant and the power plant over a distance of less than one-half mile.

For both dry and hybrid cooling, the FSA evaluates several alternative configurations and mitigation measures to determine whether they are appropriate for the site and the facility, and whether they could be implemented without creating additional significant adverse impacts. The FSA concludes that both dry cooling and hybrid cooling are feasible to use at the facility, and that at least one of the alternative configurations for each system could be used without creating unmitigatable significant impacts. Although the use of either dry or hybrid cooling would result in the facility not operating at its nominally-rated 1,200 MW under all conditions, this is similar to other power plant designs in which required mitigation measures act to

limit production below the maximum available output (e.g., various methods used to limit air emissions result in fewer particulates and air quality concerns, but may also lower the overall efficiency or output of a power plant).<sup>4</sup>

### ***3.1.6 Post-FSA evaluation of proposed Habitat Enhancement Program (HEP)***

At a June 6, 2002 hearing held after the FSA was issued, the Energy Committee directed the applicant to develop, and the Energy Commission staff to review, a Habitat Enhancement Plan (HEP) that might be used to offset the proposed project's significant adverse impacts to marine biological resources. In its order, the Committee stated that an adequate HEP proposal should include, but not be limited to:

- 1) A description of a HEP which is adequate to actually compensate for the environmental impact, is feasible, as defined by CEQA Guidelines (section 15364), and which meets constitutional requirements for nexus and proportionality;
- 2) Identification of the goals and objectives to be achieved by the HEP;
- 3) Performance standards for accomplishing the goals and objectives;
- 4) Identification of how the HEP will be fully enforceable through permits conditions, agreements, or other measures to ensure that identified mitigation projects will be carried out;
- 5) A reporting and monitoring program to ensure that specific elements of the HEP are implemented, that performance standards are met, that responsibilities are assigned, that monitoring activities are scheduled, and that any needed corrections to the plan can be taken in a timely way;
- 6) Contingency plans to be implemented if a specific project has not or is not likely to meet its objectives, or if a project is found to be more successful than anticipated;
- 7) Substantiated cost estimates and an enforceable payment schedule.

On August 30, 2002, the applicant submitted a HEP for review. The proposed HEP consists of an offer to pay from \$9.7 to \$12.5 million for various habitat enhancement projects that could be built in or near Morro Bay. It also includes a description of how the applicant calculated the amount of funding needed, a recommendation to establish a non-profit organization that would administer the money and select, design, and construct various mitigation projects, and analyses of how various representative projects might provide habitat benefits to Morro Bay.

The applicant's sole commitment to the HEP, however, is the funding. The applicant states in the HEP: "Once the funds have been provided, Duke's legal obligations under the HEP will be deemed fully satisfied..." It further states that the projects, monitoring, and analyses contained in the HEP should be considered recommendations only and that decisions and obligations related to implementing the HEP would be the responsibility of the non-profit organization set up

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<sup>4</sup> The applicant has also expressed concerns about dry or hybrid cooling limiting the generating capacity of the facility; however, the applicant has concurrently offered various mitigation measures that would result in similar decreases in capacity (e.g., operating with an annual daily average water use of 370 mgd rather than the proposed facility's maximum capacity of 475 mgd).

to administer the mitigation funds. The applicant also states in the HEP that it is being provided to address the requirements of section 316(b) of the Clean Water Act, as administered by the Regional Board, and that the applicant believes the HEP is not necessary pursuant to CEQA since the proposal would not result in significant water quality-related impacts.

Despite these limitations, the applicant includes in the HEP document a discussion of mitigation "building blocks" that describe or reiterate the facility's possible mitigation measures:

- 1) Facility design: The HEP reiterates the applicant's original proposal to install pumps that can be operated with more variability than the current pumps to better match intake water flow to electrical generating demand. This would allow more efficient use of ocean water for cooling and would likely reduce the rate of entrainment per kilowatt-hour of electrical generation.
- 2) Permit flow restrictions: The HEP includes the applicant's proposal to limit the facility's annual average daily water use to 370 mgd, with a maximum daily flow of 475 mgd. The facility is currently able to withdraw up to 668 mgd, although its baseline average over the past five years has been 387 mgd.

The applicant additionally states that its assessment of the HEP's benefits (described below) is derived using a baseline level of entrainment impacts of 413 mgd. The applicant offers to maintain its assessment based on this level, rather than re-assessing the HEP benefits based on the proposed lower annual average daily rate of 370 mgd.

- 3) Aquatic Filter Barrier (AFB) feasibility study: The HEP also reiterates one of the applicant's originally proposed conditions in the AFC to propose a study of whether a filter barrier would be feasible at the facility.
- 4) Habitat enhancement projects: This "building block" is the conceptual basis of the HEP, and includes several primary elements:
  - a. Impact assessment: the HEP used a "Habitat Equivalency Analysis" (HEA) to quantify the impacts caused by the proposed facility and the benefits derived by representative projects described in the HEP. This HEA establishes that the "debit" caused by entrainment is the loss of biomass to Morro Bay, and that an equivalent "credit" can be developed by creating habitat that provides an equivalent amount of biomass to the Bay. It further calculates the amount of biomass that would be provided by the restoration or maintenance of various types of habitat in the Bay, and discounts those impact and benefits over time.
  - b. Representative projects: The HEP briefly describes several projects that could be implemented to provide habitat benefits in and near Morro Bay. The projects are of two basic types, both primarily related to sediment removal – one type is meant to restore in-bay habitat by dredging areas of accumulated sediment; the other is slow

the rate of habitat alteration by reducing sediment transport into the Bay. The HEP describes six possible projects that could serve as mitigation:

- i. Dredging of approximately 13 acres of built-up sediment from the Chorro Creek delta in Morro Bay to remove Hoary Cress (an invasive plant) and to change the area from transitional upland habitat to low-marsh habitat. The proposal does not include any replanting, as the applicant anticipates the area would recolonize naturally.
  - ii. Restoration of approximately 16 acres of mudflat and eelgrass habitat by dredging existing mudflats to lower elevations more suitable for use by eelgrass and to improve water circulation in the Bay. This proposal would include some level of eelgrass planting.
  - iii. Stabilization of the outer sandspit on Morro Bay by constructing structures, such as fences, and planting vegetation to reduce sand migration, including siltation into the Bay.
  - iv. Construction of a 40-acre sediment trap in the Chorro Creek floodplain to reduce the sedimentation rate in Morro Bay. This project would be constructed adjacent to an existing 60-acre sediment trap.
  - v. Restoration of areas of the Hollister Ranch in the Chorro Creek watershed through constructing sediment traps, managing vegetation, relocating power lines and poles, sealing wells to reduce shallow aquifer withdrawals, and possibly other measures.
  - vi. Implementation of rotational grazing and cattle exclusion areas near streams and riparian zones to reestablish riparian buffers and vegetation on the Cal Poly Walter's Ranch on Chorro Creek.
- c. Funding: The applicant states that the representative projects described above would cost \$9.7 million to implement. Along with \$2.8 million (30%) residual funding to provide a safety margin, the total funding would be \$12.5 million.

The applicant proposes to disburse the funds by providing 25% of the \$9.7 million when the facility foundation is poured, 50% at the start of the facility's commercial operations, and the remaining 25% two years later. It would also make available the "safety margin" fund of up to 30% more (\$2.8 million) on an as-needed basis beginning five years after the first 25% is provided. Additionally, the applicant calculates that these funds might be leveraged in combination with other sources of funding to result in additional mitigation.

- d. Proposed HEP governance: The applicant proposes that a non-profit organization be formed to administer the HEP funds. This organization would be responsible for implementing either the representative projects described in the HEP or other projects, to identify other funds that may be used to "leverage" the applicant's funds, to design and obtain permits for the various projects, to conduct any necessary monitoring, and establish success criteria and contingency plans. The applicant proposes the organization include representatives from the Energy Commission, the RWQCB, the City, National Estuary Program, Los Osos Community Services District, and San Luis Obispo County.

### **3.1.7 Supplement to the FSA**

On September 20, 2002, the Energy Commission staff issued its Supplement to the FSA evaluating the applicant's proposed HEP. This Supplement concludes that the HEP is not adequate to mitigate for the facility's adverse impacts. In addition to the Energy Commission staff's review, the Supplement includes an independent evaluation by Dr. Richard Ambrose, Director and Professor of the Environmental Science and Engineering Program at the University of California, Los Angeles. Both Dr. Ambrose and Dr. John Dixon, the Coastal Commission's biologist, generally concur with the Supplement's findings, summarized below.

The Supplement bases its conclusion that the HEP is not adequate on a number of the proposal's aspects, including the following:

- The HEP does not include any responsibility by the applicant for the success of mitigation measures that might be implemented.
- It does not provide an adequate nexus between the adverse effects of the once-through cooling system (i.e., entrainment of marine organisms) and the proposed mitigation measures (i.e., the primary measure would be to provide funding for potential projects, and a possible secondary measure as described in those suggested projects would be to reduce sedimentation in Morro Bay).
- It inappropriately uses biomass as its "metric" – that is, it considers biomass lost due to entrainment as the equivalent of biomass gained through implementing the suggested projects. This approach equates the loss of fish and crab larvae due to facility operations with the gain in biomass that might be achieved when high mudflats are dredged to create lower mudflats suitable for eelgrass and other species, and when areas that otherwise receive a large amount of sediment receive less sediment and are therefore maintained as suitable low marsh habitat. [It also errs in considering the entrained larvae as "surplus", as organisms that would have died anyway due to predation or lack of suitable habitat. However, this approach does not recognize a basic ecology principle that the loss of such "surplus" production reverberates throughout the ecosystem, especially the loss of such a high proportion of the Morro Bay larval population. Simply put, the dead entrained larvae discharged from the cooling system do not provide the same function to the Morro Bay marine biological community as live larvae remaining in the Bay.]

- Along with using biomass as its basic metric, the HEP converts biomass to the productivity of acres of various types of habitat, using assumptions that are not adequately supported by empirical data.
- It bases some of the benefits of the representative projects as accruing over several hundred years, rather than during the anticipated 50-year life of the proposed facility, as is required in CEQA.
- Because it only describes representative projects that may or may not be a part of an eventual mitigation package, the HEP does not include performance criteria or success measures that might be used to determine whether it eventually compensates for the facility's impacts.
- Similar to the above, the HEP does not include specific baseline or ongoing monitoring measures to assess whether projects are providing the anticipated level of mitigation.
- It does not include any contingency plans to address the possibility of mitigation site failure or performance at less than anticipated levels.
- It is not clear whether the suggested funding amount is adequate to provide the as-of-yet unidentified levels of baseline and ongoing monitoring that would be needed for the various projects that may be implemented.
- Because the suggested projects are designed only to the conceptual level, it is unclear whether the agencies involved in the subsequent permit review needed for the various projects will require design changes or additional information that would result in additional costs above what the applicant has offered.

For the reasons described above, the Energy Commission staff concludes that the proposed HEP is inadequate to mitigate for the proposed project's significant adverse impacts to marine resources.

In its previous FSA conclusions, Energy Commission staff stated it could not recommend approval of the proposed project until the applicant provided an adequate mitigation proposal, preferably in the form of either dry or hybrid cooling. Such a proposal to change the cooling system would require additional review. Similarly, the issues identified above related to the inadequacy of the HEP would require additional review by the Energy Commission staff and other involved parties before the Energy Commission makes a final AFC determination. Accordingly, the FSA does not include recommended conditions of certification regarding marine biological resources.

### **3.1.8 Findings and Conclusions of Other Agencies**

National Marine Fisheries Service (NMFS): NMFS reviewed numerous documents during this AFC process, including the applicant's proposal and Biological Assessment, the entrainment study, the FSA and its supplement. NMFS determined that the proposed facility would likely result in adverse impacts to Essential Fish Habitat for the Coastal Pelagic Fishery Management Plan and the Pacific Groundfish Fishery Management Plan. NMFS additionally notes that the 316(b) study did not address a further adverse impact of the facility, the cooling system's entrainment of eggs and phytoplankton that serve as primary food sources to organisms within and outside of Morro Bay; therefore, the study likely underestimates both the direct and cumulative adverse impacts of the facility. NMFS also concurs with many of the findings in the FSA and Supplement regarding the inadequacies or flaws in the proposed mitigation measures and the HEP.

NMFS's Habitat Protection Policy does not allow NMFS to recommend approval of a project that would damage any existing or potentially restorable habitat and associated marine, estuarine, or anadromous resources. While NMFS may, in some situations, allow compensatory mitigation for such damages, it can occur only after a project incorporates all feasible modifications and techniques to minimize those damages.

Based on its review and pursuant to its applicable policies and regulations, NMFS makes the following recommendations:

- Based on available information, it appears that a closed cooling system (i.e., a system using other than ocean water) is feasible; therefore, the facility should use such a system to eliminate impacts to Essential Fish Habitat.
- If the Energy Commission later determines that a closed cooling system is not feasible, a HEP may be appropriate; however, the current HEP is not adequate. NMFS recommends that if a HEP is used, the current version must be improved to ensure more certainty regarding mitigation success and the required conditions must be agreed upon by the various agencies prior to an Energy Commission final decision on the proposed project.

Central Coast Regional Water Quality Control Board (RWQCB): The proposed project would require a modified NPDES permit from the RWQCB. The RWQCB implements the requirements of the federal Clean Water Act and the state's Porter-Cologne Water Quality Act, including the California Ocean Plan. A modified NPDES permit would include limits on the facility's waste discharges to Estero Bay, including maximum allowable contaminant concentrations and temperature increases, and if once-through cooling was continued, the permit would regulate the plant's allowable rate of ocean water use.

The RWQCB staff analysis differs in a number of ways from the FSA evaluation, due largely to different regulatory mechanisms driving the analyses. In a May 2002 status report on the proposed project, the RWQCB staff stated that development of an adequate HEP would allow the facility to comply with the Clean Water Act's requirement to use "Best Technology



Available" (BTA) for once-through cooling systems. RWQCB staff believe that by implementing a HEP that focused on reducing sedimentation rates in and near Morro Bay, the watershed and estuary would realize a greater long-term benefit than by implementing an alternative cooling system for the proposed project.

In October 2002, the RWQCB staff issued an Administrative Draft NPDES permit for the proposed project. It states that this draft permit was provided primarily as a courtesy to the Energy Commission for use in its deliberations, and that substantial changes may be made to the analyses and recommended conditions contained in this administrative draft permit before a formal public draft permit is issued sometime in 2003. Along with a description of the facility and affected environment, and several recommended NPDES permit conditions, this draft permit discusses the feasibility of alternatives to once-through cooling, reviews the applicant's proposed HEP, and provides a cost assessment.

Regarding alternatives and mitigation measures for once-through cooling, the draft permit discusses the following:

- Hybrid wet-dry cooling: These systems are discussed briefly, but are dismissed primarily due to the additional space needed for such systems, increased visual and noise impacts, and the opposition of the City to hybrid cooling.
- Minimizing cooling water flows: The draft permit states that whenever possible, the applicant must minimize the amount of once-through cooling water used to the level required to provide a given rate of power production and to meet thermal discharge limits.
- Screening technologies: The draft permit states that the RWQCB staff is not aware of any effective use of aquatic filter barriers in marine environments, but that the applicant may pursue these technologies to include in future NPDES permit review.
- Offshore intake structures: There is a brief discussion of moving the intake further offshore than the current location; however, RWQCB staff's conclusion is that this would not reduce impacts, but merely relocate them.
- Cooling ponds: The draft permit briefly describes "passive" or "spray" ponds, which use recirculated water to provide the necessary cooling. The draft permit states that ponds sized for the proposed facility would be too large for the available area.
- Dry cooling: The draft permit's primary focus regarding alternatives to once-through cooling is on evaluating whether dry cooling is feasible. The permit states that dry cooling would be infeasible because a system sized to fit on the available area would cause the plant would operate at less than full output during some weather conditions. It further states that the RWQCB does not have the authority to order a change in the plant's designed output or require the applicant to build a smaller power plant, and that its draft permit is based on allowing the plant to operate at the applicant's desired full

capacity (1,200 MW). The RWQCB staff's determination about dry cooling is also based on a resolution adopted by the City stating that the dry cooling proposal would not conform to City requirements, but that once-through cooling would. [Note: Conformity to the LCP is address later in this report.]

Regarding the HEP, the draft permit provides the RWQCB staff's evaluation of the applicant's proposed HEP and whether it would provide adequate mitigation necessary to conform to the Clean Water Act and Porter-Cologne Act. It states that U.S. EPA guidance allows the use of restoration projects to minimize the adverse effects on entrainment (i.e., "out-of-kind" mitigation). It also suggests several changes to the HEP and recommends that it be focused on sediment removal in and near Morro Bay. This would allow the HEP to help implement the RWQCB's Total Maximum Daily Load (TMDL) Order issued for the Morro Bay watershed that identified increased sediment loads from ranching, irrigated agriculture and other land use practices as primary reasons for impairing the Bay's water quality. The draft permit also recommends that HEP funding should be increased to between \$12 million and \$25 million.

The draft permit's analysis and conclusions regarding the HEP are based on several assumptions, including the following:

- It assumes the facility's adverse entrainment impacts can be expressed by translating larval losses to acre-years of productivity. The analysis equates the loss of 17% to 33% of the estuary's larvae to losing production from 17% to 33% of Morro Bay's total acreage (approximately 2300 acres). It determines that the facility's entrainment impacts are equal to the loss of production from 391 to 759 acres of Morro Bay, and then multiplies this loss by the 50-year life of the facility to conclude that the facility's once-through cooling system causes roughly 20,000 to 38,000 acre-years of lost productivity from the Bay.
- It assumes a HEP focused on removing sediment and reducing the rate of sedimentation into the Bay by 50%, and funded at \$12 to \$25 million, would roughly double the expected life of the estuary and the associated productivity. This is based on an estimate that current rates of sedimentation in Morro Bay would result in most of the Bay's volume being lost in approximately 400 years. By reducing the sedimentation rate by 50%, the Bay's productive life would extend an additional 400 years. By multiplying the acreage of the Bay most used by the entrained organisms (i.e., areas below elevation +4.86 mean lower low water) by the additional 400 years gained, the analysis determined that the 50% reduction in sedimentation rate would provide an additional 84,000 acre-years of productivity over 400 years.

Regarding mitigation costs, the draft permit evaluates several cost scenarios for dry cooling vs. once-through cooling with a HEP. Estimated costs for dry cooling range from Duke's \$225 million to the Energy Commission staff's \$52 million. The RWQCB requested an independent evaluation of cooling system costs, and received an estimate of from \$28 to \$105 million (from Tetra Tech, Evaluation of Cooling System Alternative: Proposed Morro Bay Plant, May 2002).

Considering the range of costs (from \$28 to \$105 million) along with the productivity analyses described above, the RWQCB staff concludes that closed cooling would cost \$28 to \$105 million and result in 20,000 to 38,000 acre-years of productivity over 50 years; and that a HEP costing \$12 to \$25 million would result in 84,000 acre-years of productivity over 400 years. The draft permit additionally calculates that the actual costs of a HEP adequate to implement this level of benefits should include funds for monitoring, contingency plans, and other mitigation needs, so that the total amount of recommended funding is instead \$37.4 million. Based on this calculation, the RWQCB staff believe that the costs of dry cooling are "wholly disproportionate" to the benefits gained when compared to the continued use of once-through cooling and a HEP.

The draft permit also recognizes that the RWQCB would rely on the Energy Commission's CEQA-equivalent AFC determination for the CEQA conformity required of the NPDES permit. In doing so, if the Energy Commission determines dry cooling is a feasible alternative, the RWQCB may not need to issue an NPDES for the once-through cooling system, and instead defer to the Energy Commission's decision as to the appropriate cooling system.

City of Morro Bay: The City has also evaluated the proposed facility and the various alternatives during the AFC review. The City has concluded that the once-through cooling option is the only alternative that conforms to the City's LCP and zoning requirements. The City has expressed its opposition to the other cooling options deemed feasible in the FSA – to dry cooling because of issues related to its conformity to the LCP (e.g. visual), and to hybrid cooling due to similar issues of LCP conformity and due to the City's decision that it would not make available the supply of reclaimed water needed to implement the hybrid cooling option. One of the reasons the City opposes dry cooling, and finds the alternative to be infeasible, is because a dry cooling facility is inconsistent with the site's zoning designation of Coastal-Dependent Industrial. The City argues that a dry cooling facility is not coastal-dependent because by definition it does not use ocean water and therefore does not require a site "on, or adjacent to, the sea to be able to function at all," as defined by Coastal Act §30101.

### ***3.1.9 Coastal Commission Analysis, Findings, and Specific Provisions***

The FSA and the studies cited above show that the proposed once-through cooling system would cause significant adverse impacts to the marine biological resources of Morro Bay. The Energy Commission staff's recommendation is that the project not be approved as proposed (i.e., with a once-through cooling system), but that it could be approved if it used one of the feasible alternative cooling options – either dry cooling or hybrid cooling – that would completely eliminate the significant entrainment impacts and other impacts associated with the once-through cooling system.

The Commission finds that the proposed project, using once-through cooling, does not conform to applicable Coastal Act policies related to marine biological resources. Even with the mitigation measures proposed by the applicant, the facility would continue and increase the significant adverse entrainment impacts caused by the once-through ocean water cooling system. The proposed HEP, which serves as the applicant's primary mitigation measure, is highly speculative and largely conceptual, and is based on several assumptions that do not provide

adequate assurance that the adverse impacts will be sufficiently mitigated. The HEP provides little more than a source of funding for projects that may, at some point be built; however, there is currently no assurance as to which projects might be built, how they would be designed, whether they could receive the necessary permits, whether they would mitigate for the impacts caused by the facility, or whether the proposed level of funding is adequate. The Commission has consistently taken the position that mitigation in the form of financing only does not provide adequate mitigation and does not conform to Coastal Act requirements.

Additionally, the analyses and assumptions that serve as the basis of the HEP do not provide a sufficient nexus to the impacts the HEP is intended to address, and do not adequately recognize the complexity of the Morro Bay ecosystem, including the role the entrained organisms would serve in the local and regional marine biological community were they not entrained, the different rates of productivity in different habitat types in the Bay, and others. In addition, should the HEP actually result in the benefits it is calculated to achieve, those benefits would accrue too slowly to mitigate for the impacts caused by the facility over its anticipated 50-year economic life. This issue is of particular importance, not only because it inadequately addresses the environmental impacts, but because it is used, in part, to compare the economic costs and benefits of dry or hybrid cooling systems with those of once-through cooling and the accompanying HEP. By equating the costs of once-through cooling that occur over 50 years to HEP benefits that accrue over 400 years, and then comparing the benefits of dry or hybrid cooling over only 50 years, the resulting calculations are inappropriately biased towards once-through cooling. When calculated more equitably, the benefits of dry or hybrid cooling appear to be far better than the costs of once-through cooling.

Regarding the applicant's proposed HEP, we generally concur with the conclusions of the September 2002 FSA Supplement, and find that the HEP would provide inadequate mitigation for the impacts of the proposed facility. Further, we find that the HEP would not conform to applicable Coastal Act policies related to marine biological resources, in particular the portion of section 30231 which requires that the adverse effects of entrainment be minimized in order to maintain biological productivity, the quality of coastal waters, and optimum populations of marine organisms.

Regarding the alternative cooling methods evaluated in the FSA, we concur with the conclusion that either dry cooling or hybrid cooling would avoid or significantly reduce the significant adverse entrainment impacts and other impacts of once-through cooling. The Commission therefore finds that either cooling option would conform to the Coastal Act policies related to marine biological resource protection. We also find, however, that while hybrid cooling would conform to Coastal Act policies, it appears to be infeasible, based on the City's determination that it would not supply the reclaimed water necessary to implement the hybrid cooling option. If the City were to reconsider its decision, or if the applicant or the City were to identify an alternative source of reclaimed water or other similar supply, the hybrid cooling option might then become feasible.

We also address the City's belief that dry cooling is infeasible due to its nonconformity with certain LCP policies and the site's zoning designation as "Coastal-Dependent Industrial". The Commission has a different interpretation of the project's "coastal-dependent" status<sup>5</sup>. The facility is and will continue to be "coastal-dependent", regardless of whether the facility does or does not retain the design feature (once-through cooling) that was the basis for the original qualification of the facility as "coastal dependent". The proposed project represents a modification and expansion of the existing, coastal-dependent facility. The CEC is processing the proposed project under the Warren-Alquist Act as a modification/expansion of an existing facility, rather than as a new facility. As such, the proposed project, regardless of the cooling-related design features that it may, in the final analysis, contain, is one that, "in order to be able to function at all" for purposes of that term as it is used in the Coastal Act's definition of "coastal-dependent development or use, can by definition only be located on the site of the existing facility. The existing facility is located "on, or adjacent to, the sea". Therefore, the proposed project will under all conceivable circumstances be "coastal-dependent" within the meaning of that term as it is defined in the Coastal Act.

Even if the City were to prevail in its interpretation, and the dry cooling alternative is found to be inconsistent with the site's zoning designation, the applicant could avail itself of Coastal Act § 30515, which states:

*Any person authorized to undertake a public works project or proposing an energy facility development may request any local government to amend its certified local coastal program, if the purpose of the proposed amendment is to meet public needs of an area greater than that included within such certified local coastal program that had not been anticipated by the person making the request at the time the local coastal program was before the commission for certification. If, after review, the local government determines that the amendment requested would be in conformity with the policies of this division, it may amend its certified local coastal program as provided in Section 30514.*

*If the local government does not amend its local coastal program, such person may file with the commission a request for amendment which shall set forth the reasons why the proposed amendment is necessary and how such amendment is in conformity with the policies of this division. The local government shall be provided an opportunity to set forth the reasons for its action. The commission may, after public hearing, approve and certify the proposed amendment it finds, after a careful balancing of social, economic, and environmental effects, that to do otherwise would adversely affect the public welfare, that a public need of an area greater than that included within the certified local coastal*

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<sup>5</sup> Section 30101 of the Coastal Act defines "coastal-dependent" as meaning "any development or use which requires a site on, or adjacent to, the sea to be able to function at all". Additionally, section 30260 of the Coastal Act states: Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. 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 and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

*program would be met, that there is no feasible, less environmentally damaging alternative way to meet such need, and that the proposed amendment is in conformity with the policies of this division.*

In other words, the applicant could seek from the City an amendment to the LCP to change the zoning designation to accommodate a dry cooling facility. If the City objects to the zoning change, the applicant can then apply to the Coastal Commission. As required by Section 30515, the Coastal Commission will consider as part of its evaluation whether a denial of a zoning modification "would adversely affect the public welfare, that a public need of greater than that included within the certified local coastal program would be met" and "that there is no feasible, less environmentally damaging alternative way to meet such a need."

### **3.1.10 Summary of Coastal Commission Findings**

For the reasons discussed above, the Coastal Commission finds that the project, as proposed with once-through cooling and a HEP, does not conform to the marine resource policies of the Coastal Act and the ESHA policies of the LCP. We further find that, based on available information, the only feasible alternative configuration of the project that would conform to those policies would require the use of a dry cooling system rather than once-through cooling. Additionally, the Coastal Commission believes that since the project is being reviewed by the Energy Commission and the RWQCB as an expansion of an existing coastal-dependent industrial facility in a site appropriate for such facilities, the new facility, regardless of design alternative, will be consistent with the site's coastal-dependent zoning designation.

### **3.2 Visual Resources**

Coastal Act § 32051 and CLUP Policy 12.01 state in part:

*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....*

CLUP Policy 12.06 states:

*New development in areas designated on Figure VR-2<sup>6</sup> as having visual significance shall include as appropriate the following:*

- a. Height/bulk relationships compatible with the character of surrounding areas or compatible with neighborhoods or special communities, which because of their unique characteristics are popular visual destination points for recreation uses.*

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<sup>6</sup> Figure VR-2 is now referenced as Figure 31 Areas of Visual Significance in the LCP. Areas of visual significance include Highway 1, the Embarcadero, Morro Rock, and Morro Rock City Beach/Atascadero City Beach.

- b. *Designation of land for parks and open space in new developments, which because of their location are popular visitor destination points for recreation use.*
- c. *View easements or corridors designed to protect views to and along the ocean and scenic and coastal areas.*

CLUP Policy 12.11 states:

*Industrial development shall be sited and designed in areas specifically designated in the Land Use Plan to protect views to and along the ocean and scenic coastal areas, to minimize land alteration, to be visually compatible with the character of surrounding areas, and where feasible, shall include measures to restore and enhance visually degraded areas. In addition, industrial development shall be subordinate to the character of its setting.*

CLUP Policy 5.21 states:

*As a condition of any expansion of the PG&E power plant, the City will require substantial landscaping and screening to mitigate the visual impacts of existing and future facilities; with particular emphasis on screening the facilities located between the power plant and Highway One.*

### **3.2.1 Visual Resource Impacts**

The marine resources section of this report outlines the significant benefits to the Morro Bay Estuary by requiring Duke to operate a dry cooling instead of a once-through cooling facility at the site. The environmental cost of dry cooling, however, is greater significant visual impacts due to much larger and bulkier industrial structures.

The FSA concludes that from most public areas with views of the existing power plant, Duke's proposed new plant (once-through cooling) would result in an overall long-term improvement in visual quality. The basis for this conclusion is the substantial improvement in visual quality that will result after the demolition of the existing plant and its three 450-foot tall stacks. The stacks are extremely prominent in the region, visible from as far north as Cayucos, to the east along Highways 1 and 41, and south to Los Osos. The new proposed once-through cooling plant is smaller in scale as compared to the existing plant (see Exhibit 5, View of Existing Facility, and Exhibit 6, View of Applicant's Proposed Facility).

The FSA nevertheless concludes that after assessment of views from scenic Highway 1, Morro Strand State Beach, and Morro Rock, areas of the coast where public scenic views are highly valued and protected by the Coastal Act and LCP, the proposed project will continue to cause significant, long-term adverse visual impacts.

In evaluating the visual impacts of the project, the CEC staff selected, in consultation with the City of Morro Bay (and its residents), 20 key observation points ("KOPs"). For each KOP, the FSA analyzes the existing visual setting and the change in scenic quality caused by each power plant design option. The FSA uses the following parameters or criteria to assess a change in

scenic quality: (a) visual quality (overall visual impression and associated public value); (b) viewer concern (level of viewer interested in the resource); (c) viewer exposure (visibility, number of viewers, duration of view); (d) visual contrast (degree that a project's visual characteristics differ from visual elements in the landscape); (e) project dominance (a project's apparent size relative to other landscape features); and (f) view blockage (extent that project blocks previously visible landscape features).

The FSA concludes that from KOP 5 (Morro Strand State Beach) and KOP 6 (Morro Dunes Trailer Park and Resort Campground), the overall visual change, as compared to the existing plant, is negative. The proposed plant would be sited in closer proximity to the Morro Strand State Beach (and less than 500 feet to the nearest public access point just south of Morro Creek). As a result, the apparent scale of the new plant from these viewing locations would be larger than that of the existing plant. More importantly, unlike the existing plant, the proposed plant would not be fully enclosed and therefore the heavy-industrial, metallic features of the plant, including the pipe racks, would be in view of the beach users.

The proposed project, though, has less visual impact than the dry cooling alternative. There is substantial size and mass associated with alternative cooling structures. With the dry cooling option, the two air-cooled condensers ("ACC") would be visible as a single, large, elevated, "boxy" structure that would appear quite massive from foreground viewing distances depending on view location. In evaluating a conceptual dry cooling facility, the CEC staff assumed the ACC would be 330 feet long x 206 feet wide x 99 feet high<sup>7</sup>. It would appear as a large elevated box-like structure (see Exhibit 7, View of Typical Dry Cooling Structure).

The CEC staff concludes that a dry cooling alternative would result in an increase in visual contrast, project dominance and view blockage at three of six public representative viewing areas (referred to in the FSA as KOP 5 (Morro Strand State Beach), KOP 6 (Morro Dunes Trailer Park and Resort Campground) and KOP 7 (Morro Creek at Embarcadero Road)). The adverse visual impact on these viewing locations would be significant. The new facilities would have a much stronger industrial character due to greater structural complexity, metallic coloration, and texture. A dry cooling alternative would result in greater view blockages as compared to the proposed facility. There would also be a noticeable increase in visible light at night from Morro Strand State Beach. For these reasons, a dry cooling facility will not "protect views to and along the ocean and scenic coastal areas" and is not "visually compatible with the character of the surrounding area" as required by Coastal Act § 30251 and CLUP Policies 12.06 and 12.11. The dry cooling alternative therefore does not conform to the Coastal Act and LCP visual protection policies.

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<sup>7</sup> Duke argues that the CEC staff greatly undersized the facility and that to meet its project objectives it would be twice the size of the conceptual design (640 feet long x 185 feet wide x 110 feet high) considered by CEC staff. The size of a dry cooling facility is directly related to the cooling capacity needed. Duke's proposed design requires twice as much cooling capacity as the CEC staff design.



Thus, by applying the Coastal Act policies to dry cooling results in conflicts between the marine resource and visual policies of the Coastal Act. Section 30200(b) of the Coastal Act states in relevant part that "where the commission...identifies a conflict between the policies of this chapter, Section 30007.5 shall be utilized to resolve the conflict..."

Section 30007.5 of the Coastal Act states:

*The Legislature further finds and recognizes that conflicts may occur between one or more policies of [this] division. The Legislature further declares that in carrying out the provisions of this division such conflicts be resolved in a manner, which on balance is most protective of significant coastal resources. In this context, the Legislature declares that broader policies, which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

Coastal Act § 30007.5 thus directs the Commission in resolving such a policy conflict to determine which alternative policy resolution is, on balance, most protective of coastal resources. In this case, dry cooling would *eliminate* a significant, long-term impact to marine biological resources in Morro Bay while increasing to some degree an already existing adverse visual impact. Once-through cooling, on the other hand, would not only continue but increase the facility's significant adverse impacts to marine biological resources, and would only reduce, but not eliminate, the facility's adverse visual impacts. Additionally, because Morro Bay is designated a State and National Estuary primarily for its habitat values, and is designated as ESHA at the local level, its marine biological resources are the predominant coastal resource of concern. Therefore, the Commission finds that, for purposes of sections 30007.5 and 30200(b) of the Coastal Act, dry cooling is, on balance, more protective of significant coastal resources because it eliminates the adverse impact to those resources.

### **3.2.2 Recommended Conditions**

The CEC staff recommends five visual conditions of certification that, if implemented, would reduce the adverse industrial visual character of any of the project alternatives. These conditions require Duke to design and paint the plant in a manner that minimizes visual intrusion and contrast by blending with the surrounding landscape. Duke would be required in part to (a) prepare a treatment plan that includes options to partially enclose or cover the more industrial appearing elements of the plant; (b) plant trees and other vegetation in sufficient density such that the plant is screened along the ocean side of the facility within five years of construction completion; and (c) design and install all lighting such that lighting is minimized from public viewing areas. The Coastal Commission supports these recommended visual conditions of certification with one clarification: the treatment, landscaping, lighting, rubble screening and bridge design plans shall be submitted to the *Executive Director* of the Coastal Commission instead of the Coastal Commission. Proposed changes are illustrated below using underlining for additions.

**VIS-1** Prior to first turbine roll, the project owner shall treat project structures, buildings, and sound wall in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and shall treat those items in a nonreflective, appropriately textured finish. In addition, the treatment plan shall include options to partially enclose or cover the more industrial appearing elements (such as pipe racks) in order to reduce the visibility of these components from views from KOPs 5, 6, and 7. The plan shall be submitted to CEC for approval sufficiently early to ensure that any precolored buildings, structures, linear facilities, or pipe or facility coverings will have colors approved and included in bid specifications for such buildings or structures.

**Protocol:** The project owner shall submit a treatment plan for the project to the California Energy Commission Compliance Project Manager (CPM) for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment. The treatment plan shall include:

- Specification, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture;
- A list of each major project structure, building, and tank, specifying the color(s) proposed for each item;
- Documentation that a non-reflective finish will be used on all project elements visible to the public;
- Specifications, and 11" x 17" color simulations (from KOPs 5, 6, and 7), of optional pipe/facility covers and or enclosures;
- A detailed schedule for completion of the treatment and implementation of optional covers/enclosures; and,
- A procedure to ensure proper treatment maintenance for the life of the project.

**Verification:** At least ninety (90) days prior to ordering the first structures that are color treated during manufacture, the project owner shall submit its proposed plan to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment.

**VIS-2** The project owner shall provide landscaping that is effective in screening a majority of project components from views from Morro Strand State Beach (KOP 5), the Morro Dunes Trailer Park and Resort Campground (KOP 6), and the area just west of the proposed Class II Bike Path (KOP 7). Trees and other vegetation must be strategically placed and of sufficient density to screen the sound wall and most lower structural forms (not the upper portions of the stacks or the upper piping). Trees must be planted sufficiently close to the southern boundary of the trailer park to effectively screen the power plant from views within the trailer park. Screening vegetation to be planted along the western (ocean) side of the project site must be extended to the north to intersect the screening vegetation to be planted along the north side of the site. Vegetation must reach effective screening potential within five (5) years of completion of construction of the new power plant in order to avoid the occurrence of a long-term, significant visual impact.

**Protocol:** The project owner shall submit a landscaping plan to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment. The Plan shall include photo simulations of the landscaping at maturity as viewed from KOPs 5 and 6. The submittal shall also include evidence that the plan is satisfactory to the City of Morro Bay.

**Verification:** Prior to first turbine roll and at least ninety (90) days prior to installing the landscaping, the project owner shall submit the plan to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment.

**VIS-3** Prior to first turbine roll of the second unit (unit construction is sequential) the project owner shall design and install all lighting with the objectives that light bulbs and reflectors, to the maximum extent feasible, are not visible from public and private viewing areas, and illumination of the vicinity and the nighttime sky is minimized.

**Protocol:** The project owner shall develop and submit a lighting plan for the project to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment. The lighting plan shall require that:

- Lighting is designed so that exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary;
- High illumination areas not occupied on a continuous basis such as
- Maintenance platforms or the main entrance are provided with switches or motion detectors to light the area only when occupied;
- A lighting complaint resolution form (following the general format of that in Attachment 1) will be used by plant operations, to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

**Verification:** At least 90 (ninety) days before ordering the exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment.

**VIS-4** The project owner shall appropriately locate and screen the demolition rubble such that it is not visible from The Embarcadero to the maximum extent feasible, as determined by the CPM.

**Protocol:** The project owner shall submit a plan for screening the demolition rubble to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment.

**Verification:** At least ninety (90) days prior to beginning stack demolition, the project owner shall submit the plan to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment.

**VIS-5** The project owner shall develop a design for the Embarcadero bike and pedestrian bridge over Morro Creek that is responsive to the concerns of the City of Morro Bay and the Executive Director of the California Coastal Commission.

**Protocol:** The project owner shall submit a bridge design to the CPM for review and approval and to the California Coastal Commission and City of Morro Bay for review and comment. The design shall include at least one photo simulation of the bridge from KOP 7 and additional simulations from other view areas as necessary to convey the design and scope of the bridge and its environmental context.

**Verification:** Prior to first turbine roll and at least ninety (90) days prior to construction of the bridge, the project owner shall submit the bridge design to the CPM for review and approval and to the Executive Director of the California Coastal Commission and City of Morro Bay for review and comment.

In light of the outcome of the Commission's conflict resolution analysis conducted pursuant to Coastal Act § 30007.5, in combination with implementation of the CEC staff's recommended conditions of certification VIS 1-5, as amended by the Commission, the Commission finds that the dry cooling alternative will conform to the Coastal Act and LCP visual protection policies.

### 3.3 Terrestrial Biology and Environmentally Sensitive Habitat Areas (ESHAs)

Coastal Act § 30240 states:

*(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

CLUP Policy 11.01 states, in part:

*Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within such areas.*

CLUP Policy 11.20 states, in part:

*Coastal dune habitats shall be preserved and protected from all but resource-dependent, scientific, educational, and passive recreational use. Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if revegetation is made a condition of project approval. Such revegetation shall be with native plants propagated from the disturbed sites or from the same species at adjacent sites.*

The applicant proposes to construct the new power plant on 57 of the site's 107 acres, and adjacent to the existing plant. These 57 acres are either paved, contain unused fuel oil storage tanks that would be demolished as a part of the project, or support exotic or ruderal plant species such as ice plant. The applicant leases land on other portions of the parcel for a nearby trailer park, recreational vehicle storage area, and a baseball field. The balance of the parcel consists of undeveloped riparian woodlands (bordering Morro Creek and Willow Camp Creek), coastal valley grasslands, coastal dune scrub, and ornamental trees and shrubs.

The dry cooling facility would be located south of the proposed project on what is currently a parking lot. Use of this site would not create any biological impacts.

Other project features include upgrading and paving an existing extension of Embarcadero Road to provide construction access to the power plant site. This area is now a dirt road leading to a makeshift coastal access parking and turnaround area adjacent to the mouth of Morro Creek. Additionally, two off-site locations are proposed to support project activities. The first is a ten-acre agricultural parcel located in an unincorporated portion of San Luis Obispo County a few miles southeast of the project site. The applicant proposes to convert up to five of the ten acres into an off-site satellite parking area<sup>8</sup>. The second site, proposed for construction staging and laydown purposes, is a 40-acre portion of Camp San Luis Obispo (CSLO), owned by the California State Military Department and managed by the California Army National Guard<sup>9</sup>. CSLO is located in an unincorporated portion of San Luis Obispo County about seven miles southeast of the City of Morro Bay. This proposed staging area consists of five parcels (identified as staging areas A-E, respectively). Areas A and B total 4.8 acres. The former is two-thirds paved and the latter is an unimproved lot containing dense brush. Areas C and D encompass 12.4 acres, half of which are paved. Area E contains 22 acres of fallow grasses and forbs and experiences human disturbance from disking and military training activities.

### **3.3.1 Sensitive Habitat and Wildlife Species**

The Morro Bay region supports biologically diverse and sensitive habitats home to many threatened and endangered species. The types of habitat within one mile include urban, planted forest, coastal valley grassland, riparian woodland, wetlands, coastal scrub, coastal dune slack, and coastal active dunes and foredunes.

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<sup>8</sup> Only a portion of the site lies within the Coastal Zone.

<sup>9</sup> Only a portion of the site lies within the Coastal Zone.

The coastal dune scrub habitat near the proposed project site is currently in a degraded condition and interspersed with the invasive European beach grass. The area is not designated as ESHA in the LCP but rather open space (west of the road) and open space/commercial and recreational fishing<sup>10</sup> (east of the road) in the City's Coastal Land Use Plan (CLUP). Nonetheless, the Commission considers it environmentally sensitive habitat given its biological importance, scarcity, and decline throughout the state. Consistent with Coastal Act § 30240 and CLUP Policies 11.01 and 11.20, ESHA deserves maximum protection.

Morro Creek and its adjacent riparian habitat are designated as ESHA in the City's CLUP. Willow Camp Creek and its adjacent riparian habitat are not designated as ESHA in the City's CLUP but the Commission considers both as such. Additionally, the applicant has designated all riparian woodlands as sensitive habitat in its AFC.

The applicant conducted biological surveys of the proposed project area as a part of its AFC. Results of these and more recent studies on specific species are discussed below.

Steelhead: The applicant surveyed and observed the federally threatened and state endangered steelhead trout (*Onchorhynchus mykiss irideus*) in Morro Creek, which runs through the power plant parcel. Morro Creek is designated as critical habitat for the species, and currently supports a population of steelhead trout of varying age classes that is considered an evolutionarily significant unit. Surveys also detected the trout at several locations at Camp San Luis Obispo, including the main and west forks of Chorro Creek above and below Chorro Reservoir and in Dairy Creek. Proposed project activities are not anticipated to affect the steelhead trout in all creeks noted above.

Morro shoulderband snail: The applicant also discovered six shells of the federally endangered Morro shoulderband snail (*Helminthoglypta walkerina*) in the southeastern portion of the project site during U.S. Fish and Wildlife Service-protocol surveys conducted in January, February, and April 2001<sup>11</sup>. This finding coupled with recent survey data from the California Department of Parks and Recreation (Parks and Recreation) indicate that the snail is reproducing and persisting in the project vicinity. At the request of the USFWS and other resource agencies, the applicant has initiated protocol-level snail surveys at Camp San Luis Obispo, the off-site parking area, and the Craft temporary parking area. The surveys are not expected to be complete until the winter of 2002-03. However, a preliminary survey of selected areas at the off-site parking area found both shells and living snails (*H.w. morroensis*, the intraspecific form of *H. walkerina*) at or near fence posts and in vegetative debris surrounding the parcel. Surveys conducted at and around the Camp San Luis Obispo staging areas indicate that the snail (*H.w. morroensis*) occurs extensively in and adjacent to the areas.

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<sup>10</sup> The City's 1996 Waterfront Master Plan contemplates developing the area east of Embarcadero Extension Road and north of Coleman Drive as a net drying/ boat storage area and as a RV Park (see Map E.5).

<sup>11</sup> According to the CEC, the survey did not find any live or dead snails in the dune strand and dune scrub habitats adjacent to the western edge of the project site.

Western snowy plover: Critical habitat has been designated for the federally threatened snowy plover<sup>12</sup> (*Charadrius alexandrinus*) on Morro Strand State Beach and the dunes located west and southwest of the project site. According to the CEC, the plover has nested in this area as recently as 1997. Destruction of plover habitat and nests by human and household pets has contributed to the species decline. During nesting season (March through September), Parks and Recreation installs fencing to minimize human intrusion into nesting habitat.

Burrowing owl: In 1999, biological surveyors identified a burrowing owl (*Athene cunicularia*), a federal and state species of special concern, in the northwestern corner of the existing plant. The owl has not been observed in subsequent surveys.

California red-legged frog: The federally threatened California red-legged frog has been historically present in the project area but surveys conducted in the summer of 2000 on the proposed project site did not detect any individuals or egg masses. At the off-site parking area, there is a potential that the red-legged frog could inhabit two drainages and use the proposed parking area for dispersal purposes. However, the parking area will not affect the drainages. Riparian habitat adjacent to the proposed CSLO staging areas contain suitable frog habitat. The applicant surveyed and found frogs in Chorro Creek north of Highway 1 and in an unnamed tributary to Chorro Creek approximately 200 yards southwest of the staging areas. According to the CEC, unimproved portions of staging areas A and B, located adjacent to riparian and upland communities, provide dispersal habitat for the frog.

California legless lizard: The California legless lizard (*Anniella pulchra*), a federal and state species of special concern, was not found during 2001 surveys though suitable habitat exists in the dune strand adjacent to the project site.

### ***3.3.2 Project Impacts, and Commission Findings and Specific Provisions***

By locating on an existing industrial site, the project would minimize terrestrial resource impacts that might otherwise occur on a non-developed site. Nevertheless, project-related activities will impact terrestrial resources due to: 1) constructing and paving the access road (Embarcadero Extension), bike and pedestrian pathways, and the front gate access road; 2) installing gas pipelines; 3) constructing and using on-site and off-site parking lots; and 4) constructing and using the Camp San Luis Obispo staging areas. Over the course of demolishing the existing plant and constructing and operating the proposed plant, there would likely be indirect effects to terrestrial biological resources due to noise, light, and traffic (both construction and non-construction).

Construction Access Roads/Bike and Pedestrian Paths: The upgrade and paving of the Embarcadero Extension includes a proposal by the applicant to construct a 1,330 foot Class I bike path (two lanes totaling eight feet wide) and a pedestrian path (four feet wide) on the west side of the road to enhance coastal access and recreation. The paths would provide continued and enhanced horizontal beach access. The bike path is anticipated to be part of a larger bike

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<sup>12</sup> The snowy plover is a California Species of Special Concern.

path network around the proposed facility. Together, this development would require the road be widened in some places to 36 feet<sup>13</sup> and would result in the permanent removal of approximately 0.33 acres of coastal dune scrub habitat. This habitat is part of a larger dune scrub complex to the west of the MBPP and extending north of Morro Creek into Morro Strand State Beach and supports, or has the potential to support, sensitive species including the Morro shoulderband snail, Morro blue butterfly, and the California legless lizard.

Commission Findings: While the bike and pedestrian paths would benefit coastal access and recreation, they would also encroach into dune habitat. Section 30240 of the Coastal Act requires that ESHA be protected against significant disruption and that only uses dependent on those habitat areas be allowed. These paths are not dependent on ESHA; therefore, the Commission finds that this encroachment is inconsistent with Coastal Act §30240 and CLUP Policies 11.01 and 11.20. It would be feasible, however, to reconfigure the road and paths to eliminate the 0.33-acre adverse impact to this dune habitat. This could be accomplished by constructing a narrower Class II bike path segment instead of a wider Class I path at this area or eliminating the separate pedestrian path. Eliminating the pedestrian path would not impair the existing level of access to Morro Strand State Beach, as there are many existing access ways directly adjacent to this area. Visitors who might use this proposed path would likely drive and park at four nearby existing vertical access ways, the closest one located just south of Morro Creek approximately one-quarter mile from the intersection of Embarcadero Extension and Coleman Drive.

Recommended Specific Provision: The Coastal Commission therefore recommends that the CEC require an additional condition of certification, BIO-T-18 as a specific provision to avoid the impacts to ESHA described above. This condition requires the applicant to submit new construction plans for the access road and any bike or pedestrian paths to the CEC, City, and Executive Director of the Commission that demonstrate that all impacts to coastal dune scrub habitat will be avoided.

**BIO-T-18:** The project owner shall submit construction plans for upgrading and paving Embarcadero Extension Road that demonstrate that all impacts to coastal dune scrub habitat will be avoided.

Verification: Prior to any site mobilization in preparation for installation of the permanent bridge over Morro Creek, the project owner shall submit the construction plans to the CPM, City of Morro Bay, and Executive Director of the Coastal Commission for review and approval.

Riparian ESHA Impacts at Willow Camp Creek Morro Creek Bridge: The project also includes constructing either one or two high-pressure gas pipelines under Willow Camp Creek to connect the proposed plant to an existing high-pressure gas manifold system in the eastern portion of the project site. The pipeline(s) would be placed using horizontal directional drilling (HDD) under the creek. Drilling equipment would be located outside of the creek riparian corridor, which is

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<sup>13</sup> According to The applicant, the width of the unimproved road ranges from 30 to 110 feet.



designed as an ESHA. The creek drains into Morro Creek, designated as critical habitat for the steelhead trout. The applicant proposes to drill the pipeline approximately 20 feet below the bottom of the creek bed during the dry season when flows are expected to be low or non-existent. Subsurface investigations indicate the presence of clay soils beneath Willow Creek and along the drill path. Thus, the applicant proposes to use water as a drilling lubricant. However, if rock or heavy sands are encountered during drilling, the applicant will use a bentonite-based drilling fluid.

The applicant believes the possibility of a "frac-out" is low due to the short drilling distance, shallow drilling depth, and the presence of a clay layer along the drill path. However, if a "frac-out" occurs, drilling fluids could be discharged into the creek potentially impacting water quality, riparian vegetation, invertebrates, fish, and other wildlife. To respond to such an event, the applicant will have straw bales or booms and a vacuum truck on-site during drilling activities to contain and clean up any discharged fluids. Clean-up activities would likely cause their own impacts to riparian vegetation and stream biota, including stream bank destabilization and erosion.

The CEC is requiring in condition of certification BIO-T-8 that the applicant obtain a Streambed Alteration Agreement and incorporate the recommended terms and conditions within its Biological Resources Mitigation Implementation and Monitoring Plan (as required by condition of certification BIO-T-5).

To further minimize the possibility of a frac-out in an ESHA, the Commission proposes new condition of certification BIO-T-19 that would require the applicant to submit a geotechnical report detailing subsurface geological conditions and the possibility of encountering sandy or rocky soils. The report should also include all feasible measures to minimize the possibility of a frac-out and should one occur, a plan to clean up any discharged drilling fluids.

**BIO-T-19:** The project owner shall prepare a geotechnical report for horizontal directional drilling (HDD) activities under Willow Camp Creek. The report shall investigate subsurface geological conditions and address the possibility of encountering sandy or rocky soils. The applicant shall implement all measures, including monitoring of drilling pressures and returns, identified in the geotechnical report to minimize the risk of "frac-outs" and drill mud release. No toxic compounds, such as diesel pills or chrome-based lignosulfonates, shall be added to drill mud. All drill muds and cuttings shall be disposed of at an approved off-site location. The applicant shall also maintain adequate spill response equipment on-site in the event that drilling fluids are discharged into the creek.

**Verification:** At least 30 days prior to any site mobilization in preparation for horizontal directional drilling activities under Willow Camp Creek the project owner shall submit the geotechnical report, including a HDD monitoring and spill response contingency plan, to the CPM, the California Department of Fish and Game, and Executive Director of the Coastal Commission for review and approval.

Bridge over Morro Creek: The applicant proposes to construct a bridge (24 feet wide and 150 feet long) over Morro Creek to provide temporary access during project construction. The bridge will connect Atascadero Road (Highway 41) to Embarcadero Extension Road. It will be supported by two concrete footings located 10-15 feet from the tops of the stream banks. After construction, the applicant will dedicate the bridge to the City of Morro Bay for use by pedestrians, bicyclists, and City emergency and maintenance vehicles only.

In order to avoid impacts to Morro Creek and the riparian corridor, the bridge will span the creek entirely. No structures will be placed in the stream channel and banks and no riparian vegetation will be removed or impacted (at the crossing, there is no riparian vegetation due to the creek's heavy incision). Additionally, during construction the applicant proposes to implement best management practices as described in its construction Storm Water Pollution Prevention Plan to minimize erosion and sedimentation impacts. Thus, no impacts to steelhead or other riparian wildlife are anticipated.

Construction Staging and Parking Areas: The applicant proposes to use three areas totaling approximately 40 acres at Camp San Luis Obispo for construction staging and laydown purposes. Roughly 30 acres are covered with grassland vegetation. According to the applicant, commonly occurring plant species in these areas include wild oats, perennial ryegrass, bristly ox-tongue, and Mediterranean canary grass. The southwestern border of Area E lies adjacent to riparian habitat that supports the following sensitive species: California red-legged frog, Morro shoulderband snail, and Least Bell's vireo. According to CEC staff, disturbances from heavy traffic and equipment on approximately 30 acres of grassland habitat may adversely impact foraging, nesting, and dispersal habitats for the above species and other species such as songbirds and raptors. Noise and air pollution impacts and the result degradation of habitat quality and disruption of species behavior may also be significant.

In March 2002, live Morro shoulderband snails were detected at Area E and subsequent surveys revealed a total of 39 snails with Areas E and C/D. The applicant was unable to complete protocol-level surveys last winter<sup>14</sup> but is expected to do so this winter. As a result, until these surveys and associated impact analyses have been completed, the CEC staff is not yet recommending approval of any staging area. However, CEC staff has indicated that final mitigation measures may range from complete avoidance of some areas to partial use conditioned on the implementation of appropriate mitigation measures. The Commission supports this approach.

Despite the absence of final survey results, the FSA evaluates likely mitigation measures based on an assumption that impacts to the Morro shoulderband snail and red-legged frog occur over a 25-acre area. The FSA recommends that the applicant participate or fund conservation and restoration projects through the Morro Bay National Estuary Program, and that the funds be used to acquire or restore upland grassland habitats with the goal of protecting those species. Detailed restoration success criteria and monitoring would be determined in consultation with federal and state resource agencies. The FSA calculates separate preliminary mitigation acres and costs

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<sup>14</sup> U.S. Fish and Wildlife Service survey protocols require surveys to be conducted for five weeks during the rainy season.

based on impacts to the Morro shoulderband snail and California red-legged frog. Final amounts would be determined after the surveys are completed. At a 1.5 mitigation ratio for the snail and 0.25 ratio for the frog, assuming a 25-acre impact, the result mitigation acres would amount to 37.5 and 6.25, respectively, or \$187,500 and \$31,250.

Craft Parking Area: The applicant proposes to a parking area a five acre area east of the proposed power plant currently being used to store seaweed and debris collected at the cooling water intake structure. This area is directly adjacent to ESHA riparian habitat of Morro Creek. Increased traffic and human activity created from vehicular parking may significantly impact the ESHA and sensitive species breeding, roosting, or foraging in the ESHA. The Morro shoulderband snail has also been recently detected at this site. In March 2002, protocol-level surveys were initiated here in conjunction with surveys efforts at CSLO as discussed above. Again, the applicant was unable to complete the surveys and is expected to do so this winter. Therefore, the CEC staff is not recommending approval of this site for parking until the surveys and appropriate impact analyses are complete. Similar to CSLO, mitigation of potential impacts to the snail may range from disapproval of use of the area to partial use with appropriate impact avoidance or mitigation.

Off-Site Parking Area: Two drainages near this proposed parking area have the potential to support the California red-legged frog. The parking area itself could also provide dispersal habitat for the frog. Additionally, a preliminary survey of the Morro shoulderband snail survey detected both shells and living snails (*H.w. morroensis*, the intraspecific form of *H. walkerina*) at or near fence posts and "vegetative debris" surrounding the parcel. To mitigate potential impacts to these species, the applicant proposes to conducted pre-construction surveys and install exclusionary fencing. CEC staff support these measures and are additionally recommending the imposition of conditions of certification BIO-T-5, 7, 10, 12, and 13 (discussed below).

U.S Fish and Wildlife Service's Biological Opinion: The U.S. Fish and Wildlife Service (FWS) will issue a Biological Opinion (BO) for the proposed project in accordance with section 7 of the Endangered Species Act. Because of the required issuance of a federal air quality permit for the proposed project, the U.S. Environmental Protection Agency initiated formal consultation with the FWS for the California red-legged frog, Morro shoulderband snail, tidewater goby, southern sea otter, and western snowy plover. Informal consultation was initiated for the least Bell's vireo and brown pelican. The BO will include mitigation measures to reduce the project's adverse effects on the above species. Recommended Condition of Certification BIO-T-10 would require Duke to implement these mitigation measures.

### **3.3.3 CEC Staff Proposed Conditions of Certification**

The CEC staff is recommending a number of conditions of certification that require the applicant to either avoid or minimize impacts to terrestrial biological resources. For example, the applicant will be required to conduct pre-construction surveys for sensitive species prior to any site mobilization, clearly mark construction areas and boundaries, direct or shield night lighting in a downward manner, and limit construction activities that generate high noise levels to certain hours. The applicant is required to hire biological monitors to, among other things: 1) advise the

applicant during implementation of relevant conditions of certification, 2) supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species or their habitat and, 3) clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions.

The following are selected CEC staff recommended conditions of certification, which the Commission supports.

**BIO-T-4** The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and closure are informed about sensitive biological resources associated with the project.

**BIO-T-5** The project owner shall submit two copies of the proposed Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to the CPM (for review and approval) and to CDFG and USFWS (for review and comment) and shall implement the measures identified in the approved BRMIMP. The final BRMIMP shall identify (typical measures are):

1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. All biological resources Conditions of Certification identified in the Commission's Final Decision;
3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS Biological Opinion;
4. All biological resources mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the CDFG Incidental Take Permit and Streambed Alteration Agreement and Regional Water Quality Control Board permits;
5. All biological resources mitigation, monitoring and compliance measures required in local agency permits, such as site grading and landscaping requirements;
6. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
7. All required mitigation measures for each sensitive biological resource;

8. Required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
9. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
10. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
11. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities - one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;
12. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
13. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
14. All performance standards and remedial measures to be implemented if performance standards are not met;
15. A discussion of biological resources related facility closure measures;
16. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and
17. A copy of all biological resources permits obtained.

**BIO-T-14** To compensate for impacts to sensitive habitats that lie west and northwest of the project site, and for impacts to riparian habitats in the ESHA on the north and northeast side of the project site, and for impacts to upland habitats at Camp San Luis Obispo, the Project Owner will implement the following terrestrial compensation:

1. All Compensation Funds (Funds) shall be provided to the Morro Bay National Estuary Program to be used or directed in a "Morro Bay Power Plant Mitigation and Conservation Plan" (MBMCP). The MBMCP will be created under the auspices of the Energy Commission to guide the spending of the compensation funds so that the greatest benefit to wildlife results while maintaining a nexus between impacts and mitigation. The intent of the MBMCP is to implement an aggressive conservation program that includes acquiring fee interests, conservation easements, or management agreements on lands.

2. The MBMCP will be implemented by the MBNEP with oversight from the Energy Commission.
3. The Plan shall be approved by Energy Commission in consultation with an Advisory Committee with participation from USFWS, CDFG, CCC, MBNEP, City of Morro Bay, the Project Owner, and other stakeholders as appropriate. The Advisory Committee shall not exceed 12 representatives so that progress is not impeded.
4. The MBNEP is authorized to spend 10% of the Funds for management and administrative costs incurred by the MBNEP while administering the MBMCP.
5. The MBNEP may use Funds for approved projects in cooperation and coordination with other conservation organizations and may use the Funds to secure matching grants for the benefit of the Morro Bay watershed. This objective is included to clarify that the leveraging of Funds is permitted to obtain additional benefits for the Morro Bay watershed.
6. The Energy Commission and MBNEP shall enter into a Memorandum of Understanding (MOU) as to the authority to spend the Compensation Funds. No Funds will be spend prior to completion of the MOU, unless an exceptional opportunity has arisen, in which case, the Energy Commission CPM may authorize expenditure of Funds.
7. \$1,000 has been required for each Compensation Acre for use in a long term management and maintenance endowment. The total for this endowment is \$43,325. The MBNEP shall maintain this \$43,325 endowment for the Compensation Acres. The principle will remain invested in a CPM and MBNEP approved investment in perpetuity.
8. The Conservation Funds shall be spent on projects focused on the following habitats and species and for the amounts indicated below.
  - a. The amount of \$254,675 is required to compensate for loss of approximately 4.5 acres of dune habitat. These Funds will be used to acquire and/or restore coastal dune scrub habitats with Morro shoulderband snail present, or a strong potential to be present.
  - b. The amount of \$14,850 will be applied to compensate for the loss of approximately 1.35 acres of riparian habitat. Riparian habitats supporting California red-legged frog should be acquired and/or restored.
  - c. The amount of \$225,000 is required to compensate for the temporary loss of approximately 37.5 acres of upland habitat. Upland habitats supporting (or

demonstrating the potential to support) Morro shoulderband snails and California red-legged frog should be acquired and/or restored.

- d. The total amount of the Funds will total \$494,525.

Some funding or acreage levels may change pending receipt of needed information and completion of environmental analysis.

**BIO-T-15** The Project Owner will contribute funds of no more than \$10,000/yr (adjusted for annual inflation rates) for annual installation of protective fencing for nesting snowy plover and monitoring of plover populations, for the life of the project. The placement and timing of the fencing shall be determined in consultation with the USFWS and DPR. During pre-construction and construction of the project, the project owner or his authorized agent shall submit to the CPM a monthly status report of all fencing and monitoring activities. Upon commencement of commercial operation (and throughout the life of the project), the project owner or his authorized agent shall submit to the CPM in the Annual Compliance Report all fencing and monitoring activities.<sup>15</sup>

**BIO-T-17** The Project Owner shall provide protective measures to mitigate for potential impacts to the Morro shoulderband snail, snowy plover, as well as dune scrub habitats, along the construction access road. All of the measures and plans shall be developed in consultation with the USFWS, CDFG, DPR, and the City of Morro Bay.

1. Prior to any site mobilization in preparation for installation of the permanent bridge over Morro Creek, the Project Owner shall install pre-approved protective and permanent fencing/railing, an informational kiosk, and educational signs (materials) along Hwy 41 north of Morro Creek;
2. A detailed Management Plan shall be required for the roadway, north and south of the bridge as well as management of the fencing, kiosk(s), and educational displays;
3. The road management plan will be developed, approved, and implemented to protect natural resources along the road for the life of the project; and
4. Only emergency vehicles will be authorized to use the bridge crossing Morro Creek during the life of the project.

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<sup>15</sup> The U.S. Fish and Wildlife Service may request that the fencing be moved from the beach areas north of Morro Creek to City-owned lands within an area commonly known as the sand spit (western-most border of the Morro Bay estuary) if they determine that the fencing would be more protective of the plover.

## **Conclusion**

The Commission finds that the dry cooling alternative, with the imposition of the CEC staff recommended terrestrial biology conditions of certification, and new conditions of certification BIO-T-18 and BIO-T-19, will be carried out in a manner consistent with the ESHA policies of the Coastal Act and LCP.

### **3.4 Public Access and Recreation**

Coastal Act § 30211 states that:

*Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Coastal Act § 30212(a) states in part:

*Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources....*

Coastal Act § 30240(b) states in part:

*Development in areas adjacent to ... parks and recreation areas shall be sited and designed to prevent impacts, which would significantly degrade those areas, and shall be compatible with the continuance of those ... recreation areas.*

CLUP Policy 1.01 states in part:

*For new developments adjacent to the bayfront or ocean, public access from the nearest public roadway to the shoreline and along the coast shall be provided except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected....*

CLUP Policy 1.07 states in part:

*Consistent with Coastal Act Section 32011, development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization. Such access shall be protected through permit conditions on permitted development, including easement dedications or continued accessway maintenance by a private or public association....*



The City of Morro Bay has high quality coastal access and recreational opportunities. Parks and recreation areas near the power plant site include Morro Rock Ecological Reserve, Coleman Park/Beach, Morro Strand State Beach, and Morro Bay State Park. Over 60,000 people each year visit Morro Rock and the beach (Lueker, 2001). Beach area activities include walking, running, beach wheel chair use, bikers, surfers, boogie boarders, and bird watchers. Special events and programs held on an annual basis at the Morro Rock area include: Junior Lifeguard Program, Pro/Am Surfing Competition, Rock to Pier Run, Harbor Fun Run, Lighted Boat Parade, and Harbor Festival. The plant site is located directly adjacent to Morro Strand State Beach and in close proximity to Coleman Park/Beach and Morro Rock.

According to the Interim District Ranger for the Morro Strand State Beach, from July 2001 through June 2002, the three-mile long Morro Strand State Beach had approximately 95,754 visitors (Ortiz, 2002). Beach activities are similar to those described above. Morro Strand State Beach also provides 104 campsites. Coleman Park/Beach is a heavily used, relatively unimproved recreation area adjacent to Morro Bay. Its amenities include a skateboard park, restroom, and small playground area. Water recreationists in kayaks and canoes use the beach portion of the park for launching purposes. The park is also used for special events and activities. The City of Morro Bay estimates that approximately 30,000 visitors a year recreate at Coleman Park/Beach (Lueker, 2001).

#### ***3.4.1 Public Access and Recreation Impacts of Proposed Project***

Regardless of which power plant design Duke constructs, no public parking lots will be used to support project construction or operation, including employee parking and construction staging. Project construction will not block any coastal trails or beach access ways. Given the magnitude and length of project construction and demolition (approximately 6 years total), however, including the time in which both power plants will be standing and visible (but not both operating), beach goers may be discouraged from recreating near the project site due to construction-related noise, traffic, and visual impacts. During construction, project activities could limit or delay public access to the coast via Coleman Drive and the Embarcadero due to high traffic volumes. These limitations or delays would be the greatest during peak project construction, which is anticipated to occur over a 14-month period. Any park or beach access delays due to heavy construction traffic<sup>16</sup> could occur at three access ways to Morro Strand State Beach along Embarcadero Extension (north and south of Morro Creek), Coleman Park/Beach adjacent to the intersection of Coleman Drive and Embarcadero Extension, and at the Morro Rock area.

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<sup>16</sup> Phase II of the power plant construction project will generate the most construction traffic and greatest impact on city roads and traffic. The FSA evaluation assumes, among other things, a daily trip generation rate of 2.2 trips per employee and a carpooling rate of 25 percent. Phase II will last approximately 21 months with an expected maximum workforce of 950. Of this amount, 700 employees are anticipated to work during the day shift (*i.e.*, beginning no later than 7:00 a.m. and ending before 4:00 p.m. or after 5:00 p.m.) and 250 employees will work the night shift (*i.e.*, beginning no earlier than 7:00 p.m. and ending no later than 6:00 a.m.). The FSA calculated that a total of 462 trips are expected to take place between 6:00 a.m. and 7:00 a.m. and 462 trips between 5:00 p.m. and 6:00 p.m. Total project construction-related traffic, including employee, deliveries, truck trips, and non-construction trips (*e.g.*, visitors, catering, deliveries, etc.) will amount to approximately 1,155 trips per day.

### 3.4.2 Duke's Proposed Mitigation Measures

Duke proposes that employees and trucks traveling to and from the project site use specific routes within the City of Morro Bay, and arrive and leave at times that avoid peak traffic levels on existing peak volume roadways. Construction workers will enter the project site through what is known as the "back gate", an entrance behind the proposed project near the PG&E Switchyard and immediately adjacent to Highway 1. Workers will leave the site through a new, proposed exit at the southwest corner of the project site. After exiting the site, workers will turn right on Embarcadero Road Extension, proceed across a proposed bridge over Morro Creek, and turn right on Atascadero Road, which eventually intersects with Highway 1 and 41. This exit route avoids Morro Bay's business district and popular Embarcadero Road. Duke proposes to schedule the departure of daytime construction traffic to avoid Atascadero Road, the Main Street intersection, and Highway 1 during the peak afternoon hours of 2:00-3:00 p.m. (high school peak) and 4:00-5:00 p.m. (community peak).

Duke also proposes to pave and widen (to 36 feet in some areas) Embarcadero Extension Drive to facilitate construction traffic. The existing road will be realigned to closely follow the road design contemplated in the City's Waterfront Master Plan. Specifically, the southern end will be routed to connect with the City's future planned relocation of Coleman Drive behind Coleman Park. Additionally, a 24 feet wide bridge will be constructed across Morro Creek to connect Atascadero Road with the Embarcadero Extension for construction access. This bridge will provide a means for the public to access Morro Strand State Beach, Morro Rock and Morro Bay State Park from Atascadero Road.

To enhance coastal access, Duke proposes to construct circular bike and pedestrian paths (a total of 8,355 feet—5,261 feet of Class I bike paths, approximately eight feet wide, and 3,094 feet of Class II bike paths, approximately 4 feet wide) along Embarcadero Extension, across the proposed bridge (after construction, the bridge will only be open to bike and pedestrian traffic), Atascadero Road, and south of the project site.<sup>17</sup> These paths will connect with existing bike paths to form a circular loop around the project site. Concurrent with the paving of Embarcadero Extension and construction of the bridge, Duke will construct the bicycle and pedestrian paths. During construction, Duke will install a temporary k-rail on the bridge over Morro Creek, allowing pedestrians and bikes to pass safely through this area during the construction period on weekend days when there is no activity, or during other non-construction intervals. The bridge will remain after construction is complete as an emergency City access road (no public vehicular access will be allowed), but it will continue to be available to pedestrians and bicyclists.

In addition, Duke has purchased the 7.2-acre, undeveloped "Den Dulk" property located between Morro Strand State Beach and the west property boundary of the power plant site. The property, bisected by the Embarcadero Extension, is primarily undeveloped coastal dune habitat. In the

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<sup>17</sup> The length of the Class I and Class II, respectively, may be modified somewhat if the CEC imposes Condition of Certification BIO-T-18, as recommended by the Coastal Commission, which requires the applicant to redesign a section of the road and pedestrian and bike path to eliminate the loss of .33 acres of dune habitat. One way to avoid the dune habitat is to construct a Class II, rather than Class I, bike path along that section of the Embarcadero Extension.

*Agreement to Lease and Agreement Regarding Power Plant Modernization* executed between the City and Duke, Duke has agreed to dedicate it and Coleman Park to the City in 2004. Duke also will dedicate to the City the following parcels for visitor-serving, coastal access, or recreational uses:

- A strip of land running along the Duke property frontage along Embarcadero Road approximately 40 feet wide and approximately 800 feet long. The bicycle and pedestrian path will be constructed along this section.
- A 0.92-acre parcel south of and adjacent to the existing plant along Embarcadero Road and bordering Morro Bay (historically, the site of a second proposed cooling water intake structure). Currently, this parcel is leased to the City for public parking.
- A 2.27-acre parcel immediately adjacent to and east of the above parcel referred to as the "Southern Triangle".

### **3.4.3 Public Access/Recreation Conditions of Certification**

The CEC staff also is recommending a few conditions of certification to ensure that the project's potential impacts to coastal access and recreation are minimized and, pursuant to the Coastal Act, LCP, and Warren-Alquist Act, that coastal access is *enhanced*. With some clarifying changes to the language of the conditions, the Coastal Commission supports the CEC staff's recommended conditions of certification. Proposed changes are illustrated by underlining for additions.

**LAND-2** Prior to the start of commercial operation, the project owner shall provide land in San Luis Obispo County located in the coastal zone, as defined in Section 30150 of the Coastal Act<sup>18</sup>, to be established for "public use" in accordance to Section 25529 of the Warren-Alquist Act subject to the review and approval by the CPM. Said land shall be covered under an easement designating it for "public use", while balancing such use with the protection of environmentally sensitive habitat areas. Said land shall be maintained by the project owner and shall be available for public access and use, subject to restrictions required for security and public safety. The project owner may dedicate such public use land to any local agency agreeing to operate or maintain it for the benefit of the public. If no local agency agrees to operate or maintain said land for the benefit of the public, the project owner may dedicate the land to the State.

**Protocol:** The project owner shall provide a location map, a current plot plan, survey map showing dimensions, the legal description(s) and a written description of the land being proposed for public use to be granted and a copy of the "public use" easement language for review and approval by the CPM. If the land to be established for "public use" is located within the State designated "Coastal Zone" in accordance

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<sup>18</sup> The Commission notes that Duke's proposed land dedication to the City, with the possible exception of the Den Dulk property (which constitutes ESHA and therefore may not be suitable for enhanced public access), may satisfy the "public use easement" requirement of LAND-2.

to the California Coastal Act, said land shall be subject to review and comment by the Executive Director of the California Coastal Commission. If the land to be established for "public use" is located within the jurisdictional boundary of the City of Morro Bay or the County of San Luis Obispo, said land shall be subject to review and comment by the affected local government. The CPM shall provide the Executive Director of the Coastal Commission and/or the affected local government 30 calendar days to provide written comments to the CPM.

**Verification:** The project owner shall provide to the CPM a copy of the recorded grant deed and executed "public use" easement on the land for public use approved by the CPM prior to the start of commercial operations by the new power generation facility. If the project owner chooses to maintain the ownership of the land, the project owner shall provide monthly monitoring of the maintenance and operation of the land in the annual compliance report.

**LAND-4** The project owner shall comply with the State requirements (Pub. Resources Code section 30210-30214) to insure that public access to beach and waterfront areas and beach/waterfront parking areas serving Morro Strand State Beach, Morro Rock Natural Preserve and Morro Bay State Park within a one mile radius of the existing 107 acre MBPP property are not closed or substantially access-impaired for longer than 24 hours at any given time due to construction activities related to the new power generation facility or the demolition of the old power generation facility except in the case of an unforeseen emergency event that requires limited access to protect the public health and safety as determined by the CPM. In cases such as an unforeseen emergency or other unanticipated event requiring complete closure of a public accessway for less or greater than 24 hours, the project owner shall post conspicuous notices informing the public of the anticipated length of closure, alternative nearby public accessways, and a contact name and number.

**Protocol:** The project owner shall prepare a complaint resolution form, or functionally equivalent procedure and/or post an 800 telephone number acceptable to the CPM, to document and respond to public access complaints. The project owner shall attempt to contact the person(s) making the complaint within 24 hours. The project owner shall submit a report documenting the complaint and actions taken. The report shall include a complaint summary, including final results.

**Verification:** In Monthly Compliance Reports during construction of the new facility and/or demolition of the old facility, the project owner shall submit to the CPM copies of any filed complaints. The project owner shall retain copies of the complaints in a file available to the public until the issuance of the final inspection for the demolition of the old power generation facility by the CBO.

**LAND-6** To help promote public access and recreation adjacent to the project site and satisfy Public Resources Code section 30210-30214 and 25529, the project owner shall fund an endowment, through a one-time payment of \$355,000.00 (in two payments as

described within the verification), to be used for the purpose of maintaining all of the Class I (approximately 5,261 feet) and the Class II (approximately 3,094 feet) bike paths and pedestrian paths, irrespective of ownership, proposed in the Project's AFC (October 2000), as amended. The endowment and its income will be used to fund basic maintenance activities (signage, slurry seal, stripping, sweeping, patching, landscaping, lighting bulbs replacement, if any, and routine repairs) for these bike and pedestrian paths for the life of the project. These maintenance activities will be carried out by the City of Morro Bay or other appropriate entity, as determined by the project owner in consultation with the Executive Director of the California Coastal Commission and approved by the CPM.

**Protocol:** A Memorandum of Agreement (MOA) shall be executed between the Energy Commission, the Executive Director of the California Coastal Commission, the project owner, and the entity selected to carry out the basic maintenance activities required by this condition. At a minimum, the MOA shall contain the following: 1) a provision stating that the endowment and income will be used to carry out basic maintenance activities as indicated above; 2) a provision requiring the selected entity to deposit the funds into an individual interest-bearing account and; 3) a provision requiring the entity to maintain Generally-Accepted Accounting Principles and financial management.

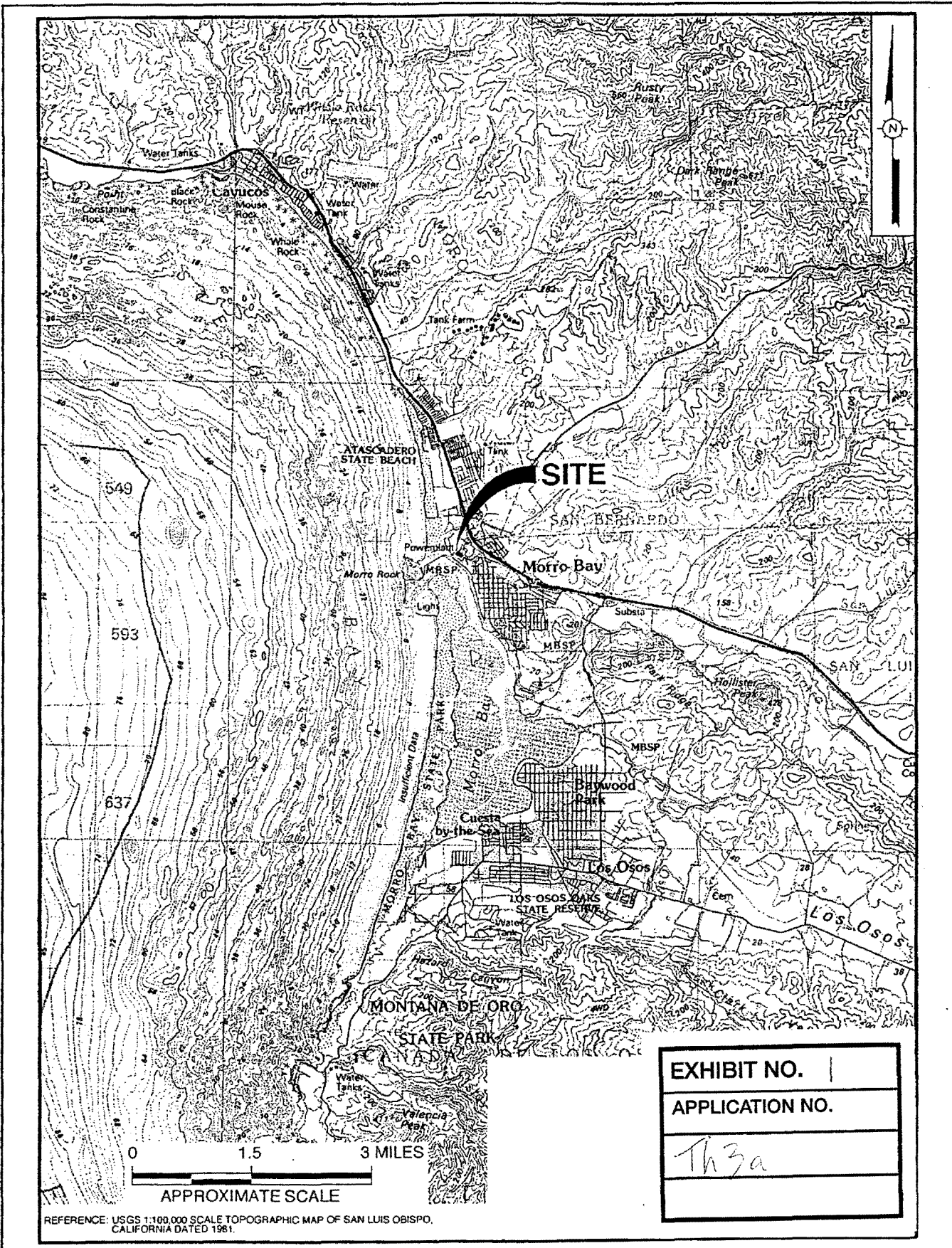
As requested by the CPM or the Executive Director of the California Coastal Commission, but not more frequently than once each year during the life of the project, the project owner shall meet with the CPM, the Executive Director of the California Coastal Commission, and the designated maintenance entity to determine if the remaining funds comprising the endowment are sufficient to cover the costs of annual basic maintenance activities planned for such year. If the parties mutually agree that the funds generated are not sufficient to cover such costs, the project owner shall contribute sufficient funds to cover the anticipated shortfall for that year. In the event that the parties cannot mutually agree on the adequacy of the endowment to cover any such year's annual maintenance costs, the CPM shall make the final determination on the issue of adequacy of funds. If the CPM determines that the funds in the endowment are insufficient to cover such maintenance costs, the project owner shall contribute sufficient funds to cover the anticipated shortfall for that year.

**Verification:** Within 60 days after the completion of the bridge over Morro Creek, or completion of the first segment of Class I bike path proposed in the Project's AFC (October 2000), as amended, whichever is earlier, the project owner shall remit to the CPM a check in the amount of \$177,500 (50% of the fund). The CPM will then transfer this amount to the agreed-upon entity that will carry out the purposes of the MOA. The MOA shall be executed by all parties prior to or on the date the above amount is transferred to the agreed-upon entity. Within 60 days of the completion of the final segment of bike or pedestrian path, the project owner shall deliver to the CPM the balance of the endowment. The CPM will then transfer these funds to the agreed-upon entity.

#### **3.4.4 Conclusion**

The Commission finds that the dry cooling alternative, with the imposition of conditions of certification LAND-2, LAND-4, and LAND-6, as amended by the Coastal Commission, will be carried out in a manner consistent with the public access and recreation policies of the Coastal Act and LCP.

## Morro Bay Power Plant - Vicinity Map

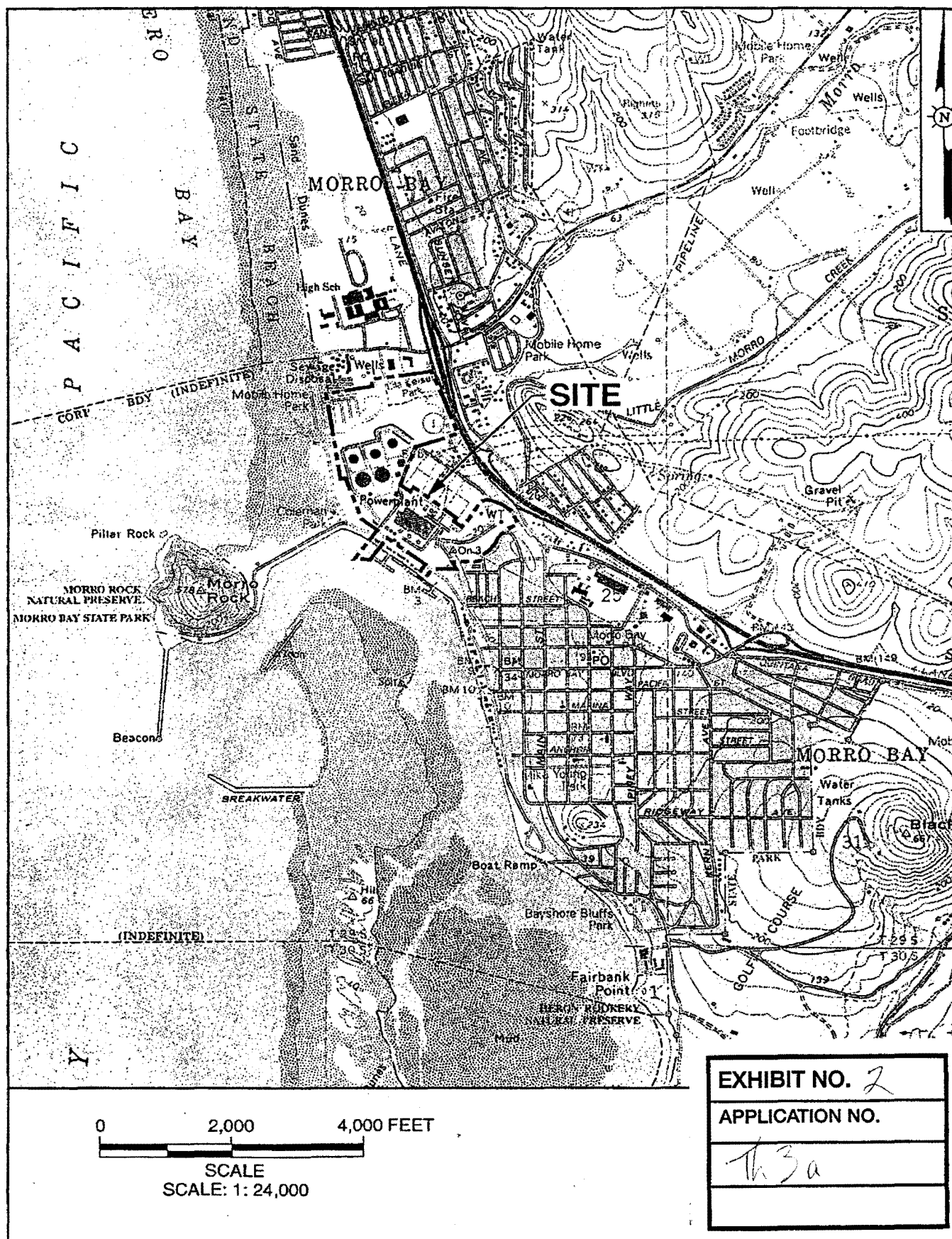


SOURCE: AFC Figure 1-2

## PROJECT DESCRIPTION



PROJECT DESCRIPTION - Figure 3  
Morro Bay Power Plant - Site Map





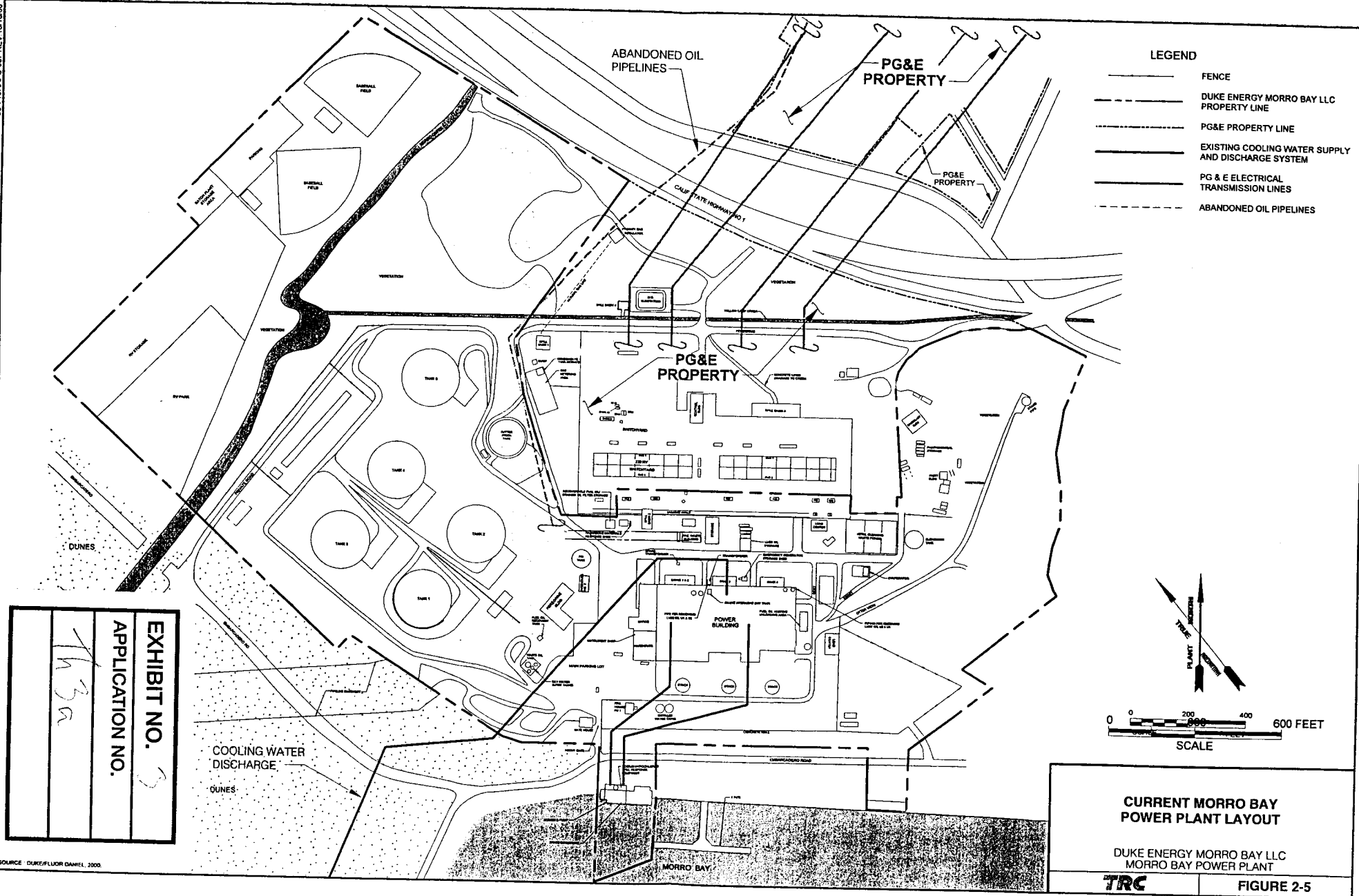
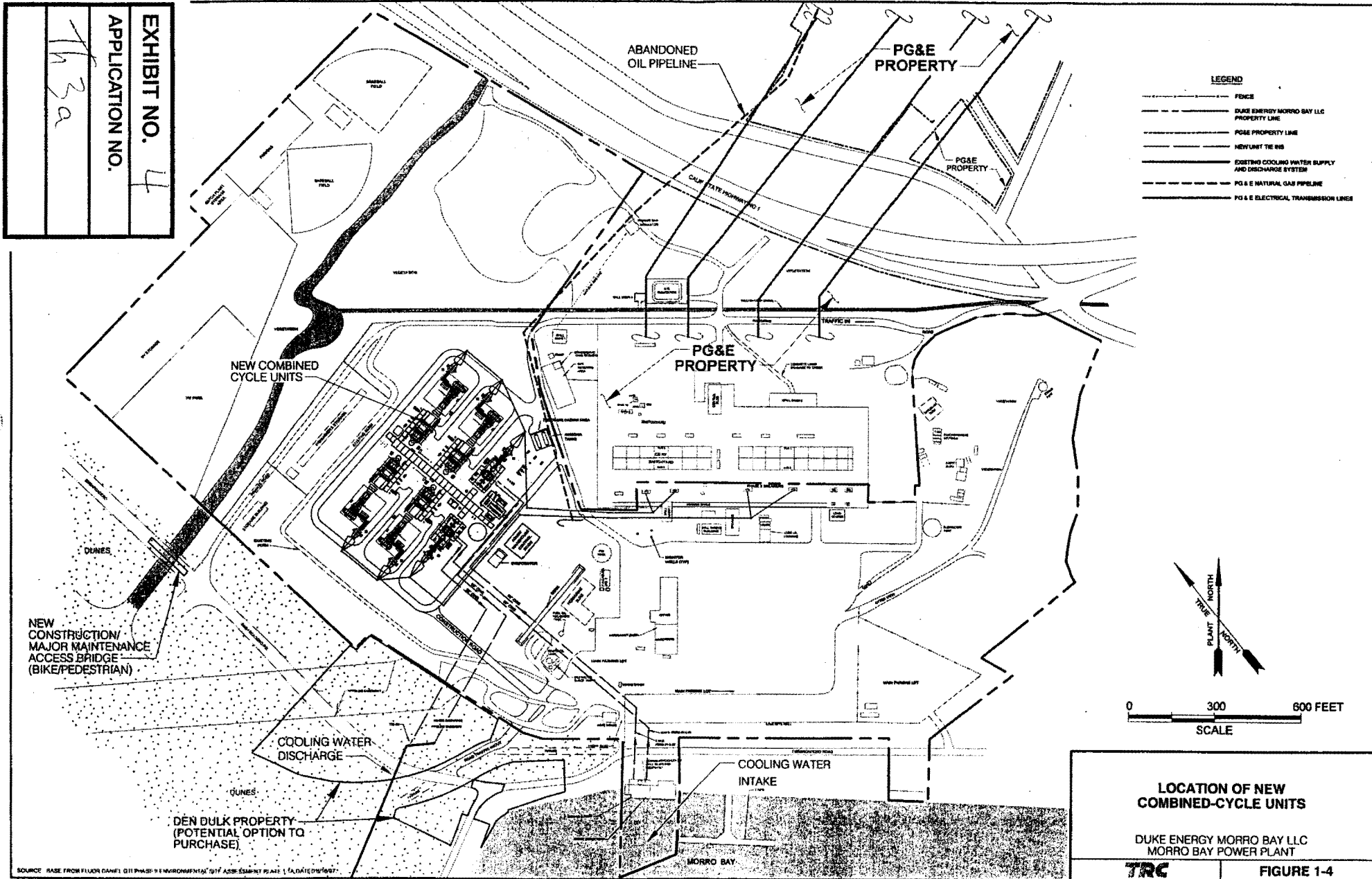


EXHIBIT NO. 4  
APPLICATION NO. 113a



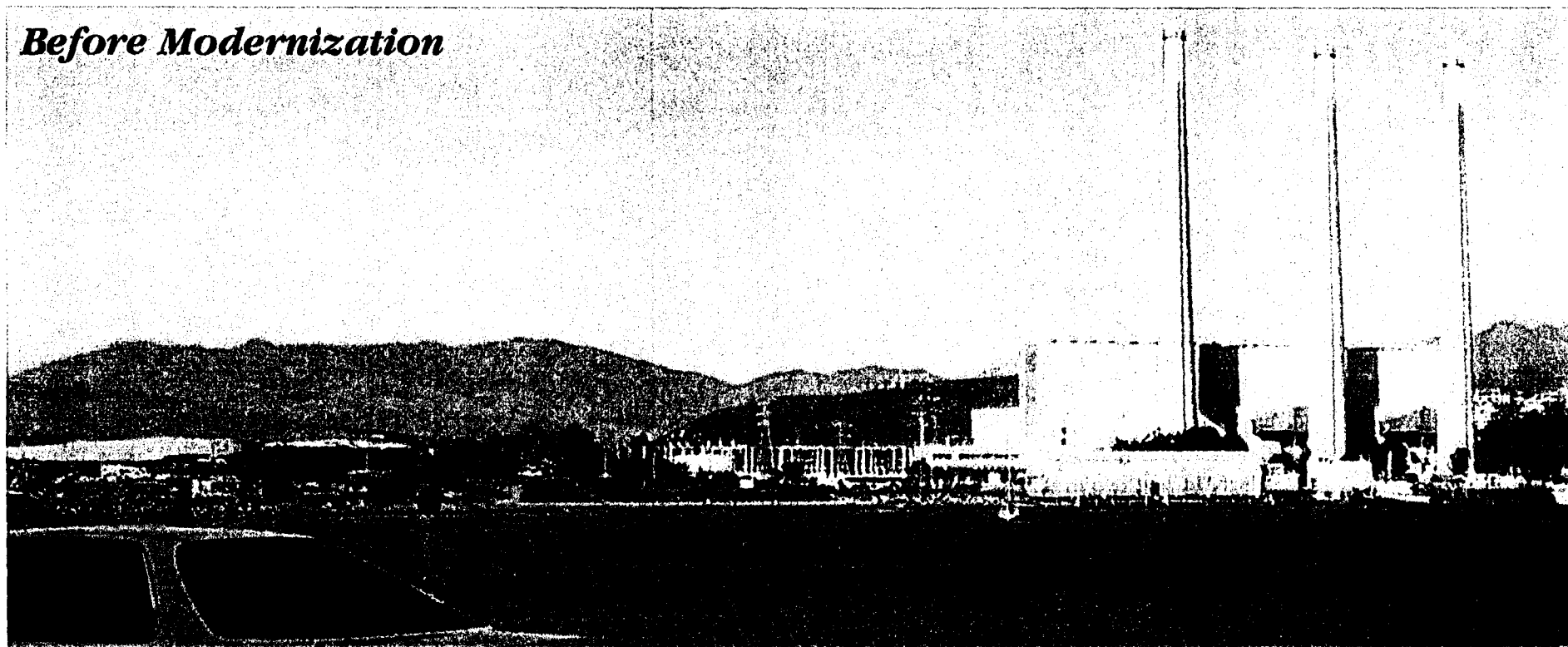
*Before Modernization*

EXHIBIT NO. 5

APPLICATION NO.

Th 3a

SOURCE: DUKE/FLUOR DANIEL AND EDWARDS, INC., 2000.

**CURRENT VIEW  
MORRO BAY POWER PLANT  
VIEW: FROM BASE OF MORRO ROCK**

DUKE ENERGY MORRO BAY LLC  
MORRO BAY POWER PLANT

**TRC****FIGURE 1-5**

*After Modernization*

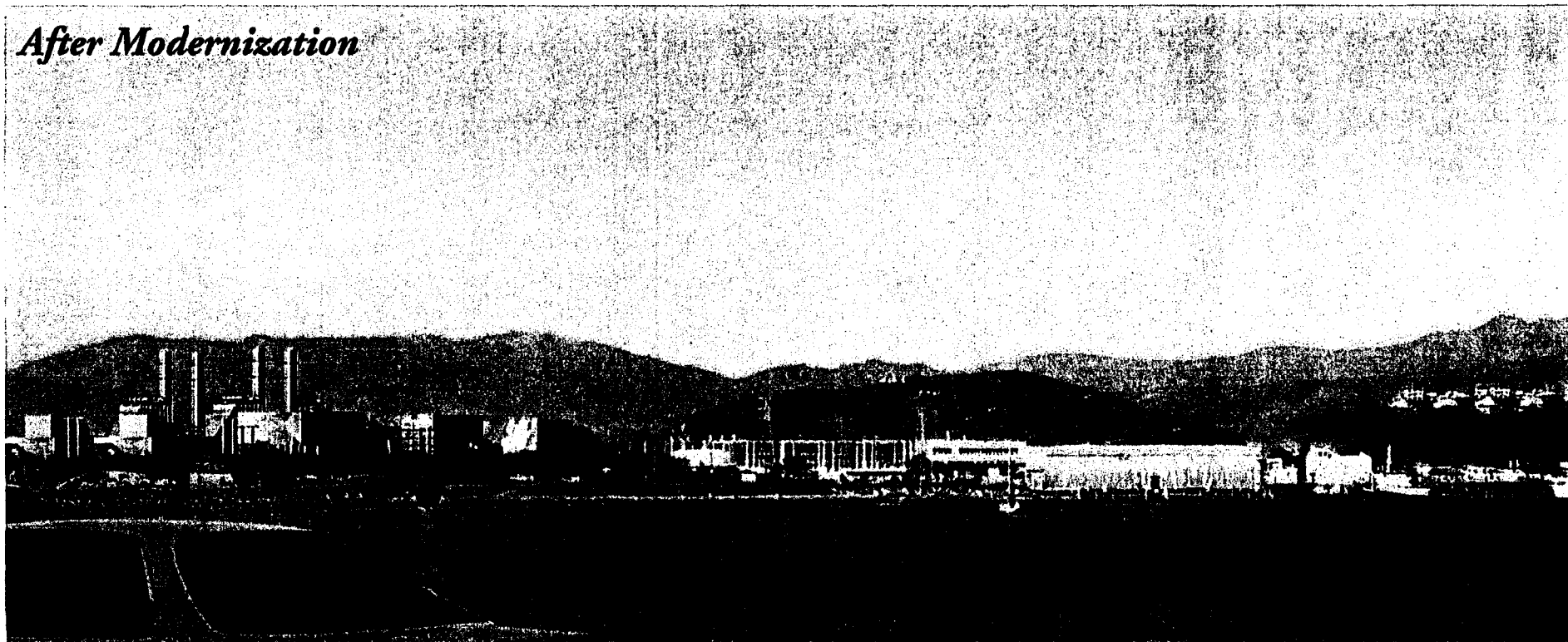


EXHIBIT NO. 10  
APPLICATION NO.

**PROJECT VIEW  
MORRO BAY POWER PLANT  
VIEW: FROM BASE OF MORRO ROCK**

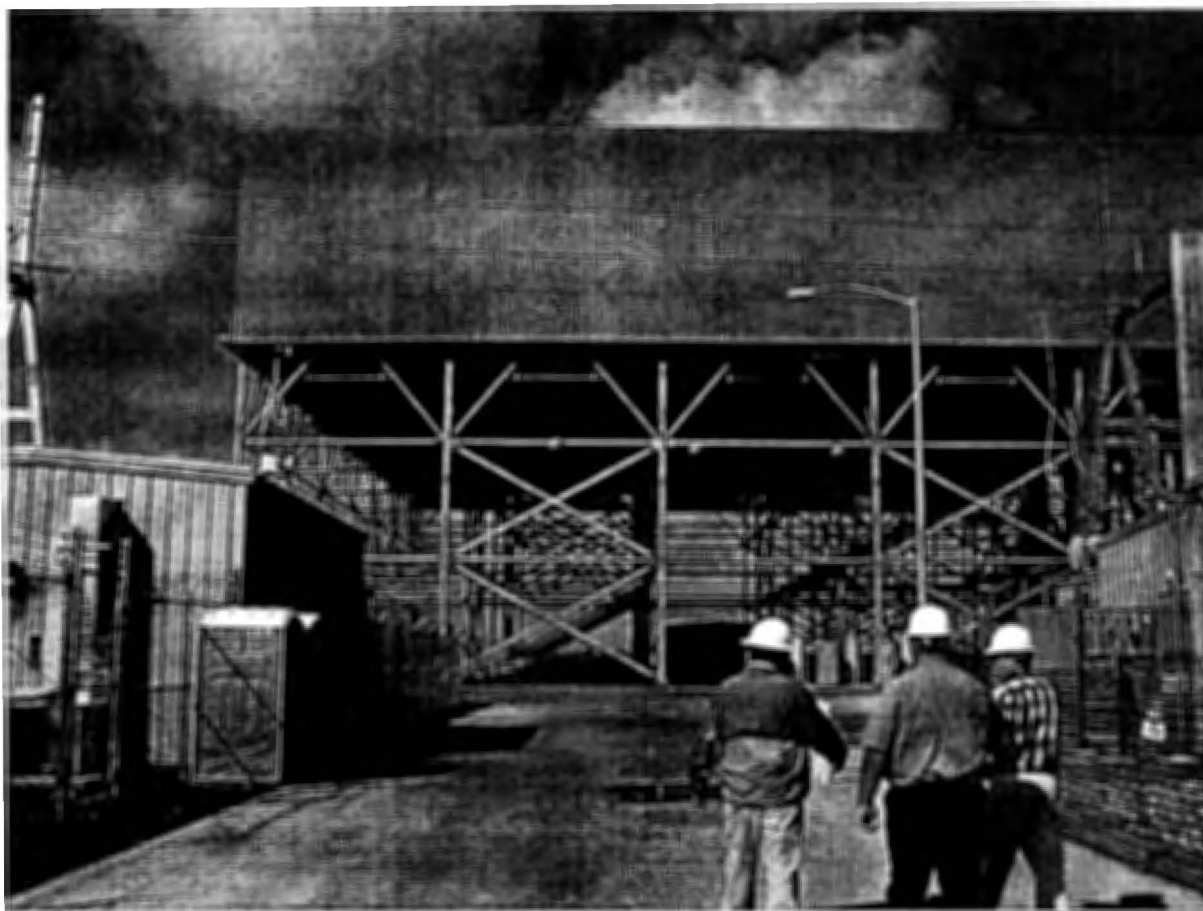
DUKE ENERGY MORRO BAY LLC  
MORRO BAY POWER PLANT

**TRC**

**FIGURE 1-6**

SOURCE: DUKE/FLUOR DANIEL AND EDWARDS, INC., 2000.

**MORRO BAY COOLING OPTIONS Photo 2**  
**Close-Up View of the Dry Cooling System at the Sutter Power Project**



April 25, 2002

21

API

EXHIBIT NO. 7
APPLICATION NO.
Th 3a

## **SUBSTANTIVE FILE DOCUMENTS**

California Energy Commission Staff, Final Staff Assessment, Morro Bay Power Plant (00-AFC-12), Part I (November 2001), Part II (December 2001), and Part III (April 2002).

California Energy Commission Staff, Supplement to the Final Staff Assessment, Part 3, Morro Bay Power Plant (00-AFC-12), September 20, 2002.

California Regional Water Quality Control Board, Central Coast Region, Administrative Draft Waste Discharge Requirements Order No. R3-2003-0001 for Duke Energy North America Morro Bay Power Plant, Units 1 and 2, San Luis Obispo County, issued October 2002.

Duke Energy Morro Bay LLC, Morro Bay Power Plant Modernization Project Habitat Enhancement Program, August 30, 2002.

City of Morro Bay Coastal Land Use Plan.

City of Morro Bay, Resolution No. 20-02 regarding opposition to alternative cooling options at the Morro Bay Power Plant, March 11, 2002

National Marine Fisheries Service, Letter re: Duke Energy's proposed Habitat Enhancement Program for the Morro Bay Power Plant Modernization, November 4, 2002.