

## CALIFORNIA COASTAL COMMISSION

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**W11a**

October 17, 2002

**TO:** Coastal Commissioners and Interested Parties

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

**RE:** Review of Proposed Upgrade of the El Segundo Generating Station

On November 6, 2002, Coastal Commission staff will brief the Commission on the proposed upgrade and expansion of the El Segundo Generating Station (ESGS) being reviewed by the California Energy Commission. Attached for the Coastal Commission's consideration is a draft letter setting forth recommended findings on the proposed project's adverse effects on marine biological resources, a determination that the project as currently proposed does not conform to Coastal Act policies related to those resources, and recommended specific provisions that, if included as conditions of project approval, would allow the project to conform to the applicable policies.

The proposed project is to replace two of the four existing generating units at ESGS with three new units to provide an additional 280 megawatts of electrical generation capacity. The two units being replaced have operated since 1954 and use a "once-through" ocean water cooling system to cool the electrical generators. The project as proposed would continue using that system and taking in up to 207 million gallons per day of cooling water from Santa Monica Bay. The facility is located on and adjacent to Dockweiler State Beach in El Segundo.

Pursuant to the Warren-Alquist Act, the California Energy Commission (CEC) has sole permitting authority for locating or expanding 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 necessary to bring the project into conformity with Coastal Act 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.

Review of this proposal started in December 2000 when the applicant, El Segundo Power, filed an Application For Certification (AFC) with the CEC. Coastal Commission staff has been working closely with the CEC staff to determine whether the proposed project will be carried out in conformity with the policies of the Coastal Act. Early in this review, Coastal Commission staff identified several aspects of the proposed project where additional information would be needed to determine whether it would comply with applicable Coastal Act policies. In March 2002, staff provided the Coastal Commission a briefing on the visual resource aspects of the proposed project, and the Commission adopted findings and specific provisions regarding the proposal's impact on visual resources to forward to the CEC. In April 2002, the Commission adopted findings that the project as proposed at that time did not yet conform to Coastal Act policies related to marine biological resources, and requested additional information about the proposal to better determine its impacts and feasible mitigation measures.

Regarding the project's impacts on marine biological resources, both Coastal Commission and CEC staffs determined that the proposal's entrainment<sup>1</sup> impacts were likely significant and requested the applicant to do an entrainment study, since the facility had never been the subject of such a study. Both staffs also determined that alternative studies presented by the applicant were not adequate to identify the project's impacts or the necessary mitigation measures. The applicant has not yet started the necessary study, and has asked the CEC itself rather than CEC staff to determine whether the study is needed. The CEC has scheduled a hearing on the proposed project for November 7<sup>th</sup>, and will consider the CEC staff recommendations, the applicant's preferences, the comments of various interveners in the review process, and any findings and specific provisions adopted by the Coastal Commission.

In its Final Staff Assessment issued in September 2002, the CEC staff concluded that the project as proposed would likely result in significant direct and cumulative adverse impacts to marine organisms. The CEC staff evaluated an alternative cooling system that would use secondary-treated wastewater from a nearby treatment plant instead of ocean water to cool the facility, and determined that such an alternative was feasible and would completely eliminate the adverse entrainment impacts. Accordingly, the CEC staff recommended that the applicant amend its application to include this alternative cooling system. In the event that the applicant declined to follow this recommendation, the CEC staff recommended that the CEC not take action on the proposed project until the applicant completes the aforementioned entrainment study.

The attached draft letter describes the proposed project, its anticipated impacts on marine biological resources, and the CEC staff recommendations. It also includes recommended findings for the Coastal Commission to adopt and forward to the CEC to consider in its final decision on the proposal. These recommended findings essentially concur with the recommendations of the CEC staff that the applicant either use the alternative cooling system or complete the necessary entrainment study before the CEC considers the project.

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<sup>1</sup> Entrainment occurs when small organisms such as plankton, are drawn through cooling systems. The organisms are crushed or heated as they pass through the system, and mortality is generally considered to be close to 100%. The effects of entrainment on communities of marine organisms vary considerably due to a number of factors, including the characteristics of the affected environment, the location and operational characteristics of the facility intake, and others.

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**DRAFT**

November 6, 2002

Mr. Robert Pernell, Presiding Commissioner  
California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814

**RE: Coastal Commission Findings on Application For Certification (AFC) #00-014 – El Segundo Generating Station: Marine Biological Effects of the Proposed Project**

Dear Commissioner Pernell:

This letter provides the Coastal Commission's findings regarding the effects of the above-referenced proposed project on marine resources and its conformity with applicable Coastal Act policies. The proposed project, as described in the Energy Commission's September 2002 Final Staff Assessment (FSA), involves removing two of four existing electrical generating units at the El Segundo Generating Station (ESGS) and replacing them with three new units. The proposal also includes removing two large storage tanks, extending an existing seawall along the west side of the facility adjacent to Dockweiler State Beach, and other changes to the facility.

We are submitting this letter as part of the review authorized pursuant to section 30413(d) of the Coastal Act. The California Energy Commission's enabling legislation, the Warren-Alquist Act, recognizes the Energy Commission's exclusive jurisdiction to approve power plants of greater than 50-megawatt capacity, including those located within the coastal zone. Nevertheless, section 30413(d) of the Coastal Act authorizes the Coastal Commission to participate in the AFC review process by submitting to the Energy Commission its findings as to whether the proposed project conforms to the policies of the Coastal Act. Subject to certain exceptions stated therein, section 25523(b) of the Warren-Alquist Act requires the Energy Commission to include in its decision on the AFC any "specific provisions" that the Coastal Commission determines are necessary to bring the project into conformity with the policies of the Coastal Act. On March 5, 2002, the Coastal Commission submitted to you findings and specific provisions needed for the proposal to conform to the visual resource policy of the Coastal Act. Later, on April 9, 2002, we submitted to you findings that the project as proposed did not conform to Coastal Act policies on marine biological resources. In that letter, we deferred our determination of specific provisions necessary to bring the proposal into conformity with the Coastal Act pending receipt of additional information about the project's entrainment impacts and necessary mitigation measures. This letter continues our review, reiterates our previous findings on the proposed project's nonconformity with the marine biological resource protection policies of the Coastal Act, and recommends specific provisions that would allow the project to conform to those policies.

As explained below, we have determined that the project as proposed does not yet conform to the Coastal Act. To bring the project into conformity, we recommend the Energy Commission require as a condition of certification the use of the alternative cooling system described in the FSA. If the applicant declines to modify its AFC to incorporate this alternative on the grounds of infeasibility, we then recommend the Energy Commission require the applicant to complete the entrainment study described in the FSA. Results of such a study will require further review pursuant to sections 30413(d) and 25523(b).

**Facility and Surrounding Area – Existing Conditions:**

Description of Facility: The El Segundo Generating Station (ESGS) is an industrial facility located on and adjacent to Dockweiler State Beach in El Segundo. The facility currently includes four electrical generating units, exhaust stacks, fuel storage tanks, and other equipment and buildings related to power generation. It is located adjacent to Vista Del Mar Avenue on the north and east, a residential area in the City of Manhattan Beach to the south, and Dockweiler and Manhattan State Beaches to the west, north, and south.

The existing facility uses a “once-through” cooling system using seawater from Santa Monica Bay to cool its generating units. There are two separate cooling structures, one serving Units 1 and 2, and the other serving Units 3 and 4, both built in the 1950s. The proposed new generating units would use the existing cooling system currently used by Units 1 & 2. The intake structure for that system is a 10-foot diameter pipe that extends approximately 2500 feet offshore. The outfall extends about 2000 feet offshore and terminates at a water depth of about 20 feet. This system is currently authorized through an NPDES permit to use up to 207 million gallons per day (mgd); however, its average daily use over the past five reporting years (1996-2000) has been between 58.2 and 77.4 mgd. The proposed project would roughly triple this existing rate of use to up to 207 mgd.

The once-through cooling system works by drawing seawater through the intake structure to a forebay adjacent to the generating plant. The water is then drawn from the forebay through a screened intake area, past condensers where it draws off heat from the gas-fired electrical generating units, and then discharged through the outfall. The total transit time is about 21 minutes. The water temperature increases by about 23° F as it passes the condensers, and then cools as it moves through the outfall. The NPDES permit limits the discharge temperature to no more than 20° F over ambient ocean water temperatures.

As part of its operations, the facility also uses heat treatments to clear the cooling systems of organisms that have attached themselves to the various surfaces or that live in the water within the intake or forebay areas of the system. During these heat treatments, which occur every few weeks, facility operators reverse the flow of water through the system so that heated water from the condenser areas flows backwards into the forebay and intake structure to kill the marine organisms that have built up in those areas.

Characteristics of the Affected Marine Environment: Santa Monica Bay is subject to significant amounts of contaminated runoff, permitted and unpermitted discharges, and chronic fuel and oil spills. The nearshore and offshore portions of Santa Monica Bay are listed as impaired by the State Water Quality Control Board for numerous pollutants and stressors including cadmium, copper, lead, mercury, nickel, silver, zinc, chlordane, debris, DDT, PAHs, PCBs, sediment toxicity, and a fish consumption advisory. Other discharges and impacts near the existing ESGS facility include the Scattergood Generating Station, about one-half mile north of ESGS, which uses a similar once-through cooling system that draws in approximately 495 mgd, and the Hyperion Wastewater Treatment Plant, about one mile north, which discharges an average of 315 mgd of treated wastewater.

Despite these impaired conditions, the Bay continues to serve as a significant recreational and economic resource to millions of Californians, provide commercial and recreational fishing opportunities, and provide habitat for a myriad of marine organisms, including a number of species considered endangered, threatened, or species of concern under state or federal law. The FSA lists twenty-one of these sensitive marine species potentially occurring in the project vicinity, including eight species of marine mammals, nine bird species, three reptile species (sea turtles), and one fish species.

#### **Review of Proposed Project's Effects on Marine Biological Resources:**

In December 2000, the applicant submitted an AFC to the Energy Commission for the proposed project. Since that time, Coastal Commission staff has worked closely with the Energy Commission staff, the applicant, and other interested parties to review the proposal and to address concerns about the proposed project's conformity with various policies of the Coastal Act. Coastal Commission staff has reviewed numerous documents, provided comments, and participated in workshops with Energy Commission staff, the applicant, representatives of local jurisdictions, and the interested public.

In reviewing the proposal's adverse effects on marine biological resources, Coastal Commission staff identified early in the AFC review process that the applicant needed to provide additional information to adequately determine the scope of the proposal's adverse impacts and to identify feasible mitigation measures that would avoid or minimize those impacts. Conformity with Coastal Act policies requires that the effects of a proposed project on coastal resources and the measures necessary to mitigate those effects be known and evaluated as part of permit review. If this proposed project were being reviewed for a coastal development permit, results of the entrainment and impingement study would need to be incorporated into the analysis of the application and final mitigation plans based on that study would generally be required before permit issuance. This is essentially the same standard of review as is used in both the Warren-Alquist Act and the California Environmental Quality Act.

On February 14, 2001, in its initial comment letter at the beginning of the AFC review process, Coastal Commission staff noted that the ESGS facility had never been subject to a site-specific entrainment/impingement study and that other studies used as surrogates were likely not adequate for this review. The primary study presented on likely entrainment/impingement

impacts at ESGS was a 1982 study that used data collected at the Ormond Beach generating facility, some 55 miles north of ESGS. This study used outmoded sampling and analysis techniques and did not reflect the changes in Santa Monica Bay or improvements in marine ecosystem science over the past 20 years. Staff also noted in this letter that additional information would be needed on the effects of the project's thermal discharges, whether the project was using all feasible mitigation measures to avoid or minimize its entrainment and impingement effects, and the cumulative effects of the project in conjunction with other nearby stressors in Santa Monica Bay.

Coastal Commission staff continued to raise these issues to Energy Commission staff and the applicant throughout project review through letters and comments at various workshops. Energy Commission staff generally concurred with these concerns and requested the applicant provide the necessary information. The primary information needed was an entrainment/impingement study similar to those required pursuant to the requirements of federal Clean Water Act section 316(b), which addresses impacts associated with cooling water systems such as the one at ESGS. The protocols for such a study require that plankton samples be taken bi-weekly for a year at particular depths at and near the intake structure. Similar studies were required during other recent AFC reviews at Moss Landing, Morro Bay, Diablo Canyon, and San Onofre.

The applicant instead proposed to submit an alternative study to address these entrainment impact issues, using plankton data collected from King Harbor, some five miles south of ESGS. Coastal Commission and Energy Commission staff concurred that the applicant could submit such a study for review with a caveat, however, that the staff review might determine the study was not adequate to address these concerns.

The applicant submitted the study, and after reviewing it, Energy Commission staff determined, and Coastal Commission staff concurred, that the study was inadequate. It used a sampling protocol that did not reflect the site characteristics at the ESGS intake, and it did not adequately account for differences between plankton communities at ESGS and King Harbor.

On April 9, 2002, we found that the project did not conform to the Coastal Act's marine biological resource policies and we deferred identification of the specific provisions necessary to bring the project into conformity to those policies, largely based on the lack of this study. Both the Coastal Commission and Energy Commission staff again requested the applicant initiate the study that had been requested more than a year earlier.

Rather than conduct the study, however, the applicant has requested that the Energy Commission itself resolve the issue. The Energy Commission has scheduled a hearing on the matter for November 7<sup>th</sup> and 8<sup>th</sup>, 2002.

**Summary of Proposed Project's Adverse Impacts to Marine Biological Resources:**

The FSA states that the project would cause unmitigated adverse impacts to marine biological resources. There are three primary types of direct impacts:

- Entrainment – occurs as the facility draws in plankton, invertebrates, and other small organisms as it draws in the seawater used for cooling. These organisms are heated or crushed as they are drawn through the facility. These cooling systems generally result in close to 100% mortality, either as the organisms pass through the facility, or shortly after they are discharged alive but injured.
- Impingement – occurs as the cooling system draws in larger organisms in the seawater that are unable to swim against the intake current and are crushed or trapped against the protective screens in the forebay area.
- Thermal Effects – there are several types of thermal effects:
  - Organisms entrained in the cooling system may die or be injured due to the increased water temperature in the system.
  - Organisms in the forebay or other parts of the cooling system intake generally die or are injured during the facility's regular heat treatments.
  - The discharge plume from the facility is up to 20° F higher than ambient water temperatures. This temperature difference may result in mortality or injury to organisms that have not passed through the facility but instead contact the heated plume as it is discharged to Santa Monica Bay.

The most significant impact of this proposed project, and the least studied, is entrainment. Entrainment impacts are very site-specific, and the adverse effects of any particular project vary due to a number of factors, including the site's plankton community and daily and seasonal variations in that community, the timing and volume of the facility's water use, the water depth of the intake and the velocity of water drawn in to the intake, and other factors. The studies done to determine entrainment impacts are equally site-specific, although the current protocols for such studies include standard methods for taking and evaluating samples. The objectives of these studies are to obtain data on plankton concentrations and the types and numbers of species being entrained, to accurately assess source water populations, and to determine the result of entrainment impacts on any of several environmental metrics, such as measuring the loss of adult members of a species due to losses of that species' larvae, or determining the effect of the plankton lost due to entrainment on source water populations.

Entrainment impacts of the existing cooling system are due to Units 1 & 2 drawing in approximately 60 to 75 mgd of ocean water. The proposed project would draw in approximately 207 mgd, roughly tripling the entrainment impacts over existing levels. Additionally, entrainment impacts are exacerbated at the facility due to intake velocities. The water velocity at the intake is approximately 2.4 feet per second (fps), which is several times higher than the 0.5 fps velocity recently recognized by the U.S. EPA<sup>1</sup> as achievable through "Best Technology Available" pursuant to federal Clean Water Act requirements for such intake structures. While the Energy Commission's review does not include review of Clean Water Act compliance, and

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<sup>1</sup> See the April 9, 2002 Federal Register: National Pollutant Discharge Elimination System – Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities – 40 CFR Parts 9 & 122-125; and the December 18, 2001 Federal Register: National Pollutant Discharge Elimination System – Regulations Addressing Cooling Water Intake Structures for New Facilities; Final Rule. 40 CFR Parts 9 and 122-125.

the proposed project does not include changes to the intake structure, this 0.5 fps standard does serve as a benchmark identifying an achievable performance standard for significantly reducing entrainment impacts. The existing intake structure was built in 1954 and has not changed since 1956 when a velocity cap was installed at the intake entrance to slow velocities to their current rate.

These adverse direct impacts are further exacerbated due to the impaired conditions in Santa Monica Bay described above, as well as ongoing cumulative impacts. The FSA notes that the loss of trillions of small organisms daily due to entrainment is coupled with the significant decline in plankton and fish populations in Southern California waters, as noted in several recent studies<sup>2</sup>. Additionally, there are cumulative impacts due to other discharges and once-through cooling systems in the Bay. The FSA notes, for example, that the combined effect of the cooling systems at the nearby Scattergood facility and the ESGS facility would be to take in up to 10% of the shallow waters of central Santa Monica Bay.

#### **Energy Commission Staff Proposed Alternative:**

Based on these known and anticipated entrainment impacts, and recognizing that the study needed to provide sufficient information about these impacts would take the applicant more than a year to complete, the Energy Commission staff also assessed whether there were other feasible alternatives to the applicant's proposed once-through ocean water cooling system. The applicant's AFC originally considered two alternatives – wet cooling, in which seawater is stored at the facility and recirculated through the cooling system; and air cooling, in which the generating units are cooled by forcing air past the condensers. These alternatives provided some advantages, such as avoiding or minimizing seawater use, but the applicant found them to be infeasible because of their larger size, lower efficiency, higher costs, or other disadvantages.

Energy Commission staff evaluated these and other alternatives, including a hybrid wet/dry cooling system, and the use of tertiary-treated reclaimed water from the Hyperion Treatment Plant about a mile north of ESGS. They determined that most of these alternatives were not feasible. However, based on available information, they determined that at least one alternative – using secondary-treated reclaimed water from Hyperion – was both feasible and would completely eliminate the significant adverse impacts associated with entrainment.

This alternative involves routing 50 to 150 mgd of treated water from the Hyperion Treatment Plant to ESGS through a new pipeline to be built along Vista Del Mar, using the water for cooling, and then returning it to the Hyperion facility through another new pipeline adjacent to the first. The water would then be discharged through Hyperion's existing outfall. This amount of water represents about a third of Hyperion's average daily discharge.

The Energy Commission staff evaluated this alternative sufficiently to determine its general feasibility, and identified its primary benefits and costs. Along with completely eliminating the significant adverse impacts of entrainment, this alternative supports several state and regional

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<sup>2</sup> See the FSA Biological Resources References, pages 4.2-42 to 4.2-47.



initiatives to increase the use of reclaimed water for purposes of water conservation. This alternative has the added advantage of meeting the applicant's project objectives as presented in the AFC:

- Produce cost-effective electricity to compete in California's deregulated electricity markets;
- Improve the overall environmental performance and reliability of the electrical generating sector in Southern California;
- Produce electricity with minimal environmental impacts;
- Alleviate the consequences of today's capacity shortage in Southern California; and,
- Assist in meeting the projected demand growth in Los Angeles County.

Energy Commission staff also identified several concerns about this alternative that will require additional study. These include concerns about the variable daily flows at Hyperion and whether a sufficient amount of treated water would be available when it is needed at ESGS, about whether 150 mgd of water would be adequate to both cool the generators and meet the 20° F. limit in temperature increase at the Hyperion outfall, and about the specific engineering requirements to use secondary treated water in the ESGS cooling system. Based on its conceptual design level of review, however, the Energy Commission staff determined that this alternative, while requiring further study, should be considered a feasible alternative that meets the project purposes and completely eliminates a significant adverse impact of the proposed project.

#### **Energy Commission Final Staff Assessment Conclusions and Recommendations:**

The FSA concludes that the project as proposed would result in unmitigated direct adverse impacts to marine organisms that may be significant, and cumulative impacts to marine organisms that would be significant. The FSA's uncertainty about whether the proposal "may" or "would" have significant direct impacts is due to largely to there being no applicable entrainment data for the existing or proposed facility.

Despite the lack of this necessary information, the FSA concluded, based on other available information, that:

- Entrainment impacts of the existing facility will increase by approximately three times due to the increase in average daily flow from 60 to 75 mgd to 207 mgd.
- Many of the fish species in Santa Monica Bay that have declined in number over the past several decades are also vulnerable to entrainment and impingement impacts; therefore, the proposed project will increase the impacts on those already stressed species.
- There are no applicable studies that adequately describe the entrainment impacts at ESGS. Data presented by the applicant were not adequate due to their being collected at sites some distance from the facility, over twenty years ago, or through the use of outmoded sampling, collection, and analysis methods.

Based on the analysis in the FSA and on the conclusions cited above, the FSA makes several recommendations:

- It first recommends that the Energy Commission license the project only with mitigation that avoids or significantly reduces the adverse biological impacts associated with the once-through cooling system. Energy Commission staff state that they cannot at this time recommend approval of the project as proposed by the applicant due to lack of adequate information about the proposed project's entrainment impacts and feasible options that would avoid or reduce these impacts.
- It then recommends that the applicant amend the proposed project to use reclaimed water from the Hyperion Treatment Plant for cooling instead of ocean water. It recognizes that this amendment would require significant additional review, but that this approach, unless determined later to be infeasible, would entirely eliminate the project's entrainment impacts.
- It finally recommends that, if the applicant chooses not to amend the proposed project, that the applicant complete the necessary one-year entrainment/impingement study. Following that study, Energy Commission staff would use the results to help determine all feasible mitigation measures needed to avoid or reduce significant impacts.

This set of recommendations is based on two aspects of the Energy Commission's review. First, the review is intended to determine the adverse effects of a proposed project and identify the necessary and feasible mitigation measures during the review. This is essentially the same standard used in reviewing project under both CEQA and the Coastal Act. Second, such review is based on a tiered approach to mitigation, in which the initial focus of mitigation is to avoid an impact, the next is to reduce or minimize it, and the last is to compensate for it.

The FSA also notes that these same entrainment/impingement studies have been required during other recent Energy Commission AFC reviews at Moss Landing, Morro Bay, Diablo Canyon, and San Onofre. For each of these projects, the studies found that entrainment impacts were greater than had been originally anticipated earlier in the review.

Applicant Response to FSA Recommendations: At the October 9, 2002 workshop held to review the status of various elements of the proposed project, the applicant stated that they considered the proposed alternative cooling system "unviable" and that they would not amend their application to include it as part of the proposed project. They also stated that they continued to disagree with Energy Commission and Coastal Commission staff determinations that the proposed project would cause a significant adverse impact to marine organisms.

**Coastal Commission's Role in the Energy Commission's AFC Review:**

The Warren-Alquist Act provides the Energy Commission with exclusive jurisdiction to certify power plants of greater than 50 megawatt capacity, including those located within the coastal zone. Nevertheless, section 30413(d) of the Coastal Act authorizes the Coastal Commission to submit to the CEC a report on, among other things, the consistency of a proposed powerplant with the policies of the Coastal Act, and section 25523(b) of the Warren-Alquist Act requires the Energy Commission to include in its decision on the AFC "specific provisions" identified by the Coastal Commission in its report as necessary to bring the project into conformity with the applicable policies of the Coastal Act. The Energy Commission may omit those specific provisions from the certification only if it finds that adopting the provisions would result in greater adverse impact on the environment or would not be feasible.

Coastal Act § 30413(d) authorizes the Coastal Commission to submit to the Energy Commission findings and specific provisions 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 letter provides the Coastal Commission's findings on specific provisions necessary to bring the proposed project into conformity with the policies of the Coastal Act related to marine biological resources. These findings are based on information from the applicant's AFC, documents provided by Energy Commission staff over the course of this AFC review, and the Final Staff Assessment.

**Project's Conformity with the Marine Biological Resources Policies of the Coastal Act:**

The Coastal Act's primary marine biological resource policies are embodied in the following two sections.

Section 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.*

Section 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.*

**Findings and Specific Provisions Regarding Coastal Act Compliance:**

The Coastal Commission is obligated to first make findings as to whether the proposed project conforms to applicable Coastal Act policies, and then, if the project does not conform to those policies, recommend specific provisions that would allow it to conform. We therefore reiterate the findings set forth in our earlier letter dated April 9, 2002, that the project as currently proposed does not conform to Coastal Act policies on marine biological resources.

Our conclusion of nonconformity is in accord with the FSA's analysis of marine biological resource impacts and the conclusions reached based on that analysis. The project as proposed would continue and significantly increase entrainment impacts and does not yet include the mitigation measures necessary to avoid, minimize, or compensate for those impacts. The applicant has not yet provided information needed to adequately determine the scope of these impacts and identify the feasible mitigation measures. However, the Energy Commission staff identified in the FSA a feasible alternative cooling method that would completely mitigate for these adverse entrainment impacts, that of using secondary-treated reclaimed water from the Hyperion Wastewater Treatment Plant, located about a mile north of ESGS.

We therefore recommend the Energy Commission require this alternative cooling method as a condition of project approval. Based on available information, it appears this alternative would allow the project to conform to applicable Coastal Act policies. We also recommend that, if the applicant for the AFC declines to incorporate this alternative into its proposed project on the basis of its infeasibility, the Energy Commission require the applicant prior to project construction to complete the entrainment study described in the FSA using protocols similar to those used during other recent projects subject to Energy Commission review. Results of that study should be used to determine all feasible measures available to avoid, minimize, or compensate for entrainment impacts. If this study is required, the conclusions and resulting mitigation measures will likely affect the project's conformity to Coastal Act policies; therefore, we reserve our right to further review the proposed project at the completion of the study and to recommend additional specific provisions necessary to ensure conformity to the Coastal Act.

**Conclusion:**

We recognize that the applicant or the Energy Commission may at some point recommend different or additional mitigation measures or provide additional information regarding the feasibility of various proposed measures. We therefore reserve the right to review future submittals for conformity with the Coastal Act pursuant to our authority under sections 30413(d) and 25523(b).

In closing, we thank you for your attention to these findings. We would also like to acknowledge the efforts of the Energy Commission staff in working with the Coastal Commission's staff to ensure that the proposed project will be carried out in conformity with the Coastal Act.

Sincerely,

SARA L. WAN  
Chair  
California Coastal Commission

