

**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****TH-14**

Energy and Ocean Resources  
Staff: JJL, SMH—SF  
Staff Report: September 26, 2000  
Hearing Date: October 12, 2000

**STATUS REPORT ON SONGS MITIGATION PROGRAM**

Following is a brief status report for the mitigation projects required in Southern California Edison Company's (SCE) coastal development permit for the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 (permit no. 6-81-330, formerly 183-73). The conditions originally were adopted by the Commission in 1991 to mitigate the adverse impacts of the power plant on the marine environment. The 1991 conditions also require SCE to provide the funds necessary for Commission staff technical oversight and independent monitoring of the mitigation projects, to be carried out by independent scientists under the direction of the Executive Director. In 1993, the Commission added a requirement for the permittee to partially fund construction of an experimental fish hatchery. The Commission has since approved amendments to the conditions in April 1997 and October 1998.

**WETLAND RESTORATION MITIGATION****The Project**

Condition A of the permit requires the permittee to create or substantially restore a minimum of 150 acres of wetlands to mitigate for impacts to fishes caused by the operation of SONGS. In April 1997, the Commission reaffirmed its 1992 approval of the permittee's choice of the San Dieguito River Valley as the site for the wetland restoration project and allowed for up to 35 acres credit for enhancement at San Dieguito Lagoon on the condition of perpetual inlet maintenance.

**Progress Report**

Following the Commission's November 1997 approval of SCE's preliminary wetland restoration plan, the wetland restoration mitigation project has been undergoing a planning and environmental review process which incorporates the mitigation project into the overall San Dieguito River Valley Regional Open Space Park project and includes additional wetland restoration required under the permittee's settlement agreement with the Earth Island Institute. The lead agencies for the CEQA/NEPA environmental review are the San Dieguito River Valley Regional Open Space Park Joint Powers Authority (JPA) and the U.S. Fish and Wildlife Service.

The permit conditions require SCE to submit a final restoration plan that substantially conforms to the preliminary restoration plan unless the CEQA/NEPA review

concludes that an alternative plan that meets the conditions for minimum standards and objectives is the environmentally superior alternative. The permit conditions, as amended by the Commission in October 1998, contain specific due dates for SCE's submittal of the final restoration plan and coastal development permit application based on a completion of the CEQA/NEPA environmental review process around August 1999. The EIR/S team has worked diligently and cooperatively to resolve the many significant issues raised during this process; however, the additional detailed analyses that have been undertaken to address these issues significantly delayed completion of the EIR/S. Notwithstanding the specific due dates, the permit requires SCE to submit the final restoration plan within 60 days following the JPA's certification of the EIR and the U.S. Fish and Wildlife Service's record of decision adopting the EIS.

The draft EIR/S was released on January 31, 2000. CEQA review notice was made at that time, and NEPA review notice appeared in the February 4, 2000, Federal Register. Following the public hearing in February 2000, the public review period continued through March 20, 2000. More than 500 comments were received by the lead agencies. Additional hydrologic modeling was completed for each of the project alternatives and additional review of public access, coastal processes, engineering and other issues was undertaken to enable the EIR/S team to respond to comments.

The final EIR/S was released on September 5, 2000. The JPA held a public hearing on September 15, 2000, to certify the final EIR/S in accordance with CEQA. The JPA certified the EIR at the hearing and voted to support the EIR's designation of Mixed Habitat plan as the environmentally preferred alternative. The Commission's contract scientists attended the meeting and concurred with this decision. As required by NEPA, the availability of the final EIR/S was published in the Federal Register on September 15, 2000, establishing the beginning of the 30-day Federal review period. At the end of that period, the USFWS will make its final Record of Decision.

Following the USFWS' Record of Decision, SCE will have 60 days to submit its final restoration plan to the Commission. Depending on the timing of the submittal, staff expects to bring its recommendations on the final plan to the Commission in March or April 2001.

## **KELP REEF MITIGATION**

### **The Project**

Condition C of the permit requires construction of an artificial reef that will consist of an experimental reef and a larger mitigation reef. The experimental reef must be a minimum of 16.8 acres and the mitigation reef must be of sufficient size to sustain 150 acres of medium to high density kelp bed community. The purpose of the experimental reef is to determine what combination of substrate type and substrate coverage will best achieve the performance standards specified in the permit. The design of the mitigation reef will be contingent on the results of the experimental reef.

In April 1997, the Commission added the requirement for a payment of \$3.6 million to the State's Ocean Resource Enhancement and Hatchery Program (OREHP) to fund a mariculture/marine fish hatchery to provide compensation for resources not replaced by the artificial mitigation reef. SCE has fully satisfied this requirement.

### **Progress Report**

**Construction of the Artificial Reef.** Construction of the 56-module experimental reef was completed in September 1999. Construction monitoring confirmed that the footprints and percentage covers of the modules conformed closely to the design specifications.

**Kelp Transplanting Experiment.** SCE's construction plan requires SCE to transplant kelp on 14 of the 56 modules. SCE's March 2000 work plan calls for kelp to be transplanted outside of the staff's permanent sampling area. While this placement reduces the risk that the transplants will be damaged by divers, it increases the area sampled during the staff's kelp counts by 33% and will require additional effort. Such additional effort will probably require supplemental funding not anticipated in the staff's work plan, which was prepared and approved by the Commission before SCE's plan for transplanting kelp was developed.

SCE planned to transplant kelp in two stages to evaluate the effects of plant size on survival and the logistical ease of transplanting. In June 2000 staff scientists assisted SCE in outplanting small laboratory-grown plants directly to the artificial reef. SCE's attempt to transplant larger plants to the artificial reef was aborted when plants in the field nursery became fouled and died. SCE has not submitted a revised plan for transplanting kelp and it is uncertain whether SCE will follow through with its initial plan to transplant larger kelp plants to the artificial reef.

**Reef Monitoring.** To date the reef monitoring staff, working under the direction of the Commission's contract staff scientists, have logged over 1,000 dives on the experimental artificial reef in completing a variety of tasks, including: (1) winter and summer surveys of giant kelp, which included measuring the size, fecundity and survivorship of all adult plants growing along 242 permanent 40 m x 2 m transects, (2) winter and summer surveys of 1,120 stakes used to measure rates of sand burial and/or accretion of the artificial reef, and (3) summer survey of the benthic algae, invertebrates and cryptic bottom fish living along the 242 permanent transects. Sampling the survivorship of transplanted kelp has been postponed until SCE completes the task of affixing permanent identification tags to the individual transplant sites. At present, it is uncertain when SCE will complete this task. In order to avoid further delay, staff scientists will assist SCE in labeling the kelp transplant sites.

Protocols for sampling kelp bed fish are currently being developed and tested by the staff scientists. This sampling, scheduled to get underway by the end of September 2000, will begin when work on the transplanted kelp is completed.

## FISH BEHAVIORAL MITIGATION

### The Project

Condition B requires the permittee to install and maintain behavioral barrier devices at SONGS to reduce fish impingement losses.

### Progress Report

The permittee initially installed mercury vapor lights in Units 2 and 3 in September 1992 and tested them for approximately one year. No clear conclusions could be reached concerning the effectiveness of the lights. In 1994, the staff instructed SCE to conduct a series of laboratory and in-plant experiments testing the behavioral response of fish to lights and sound.

Following the permittee's experiments on light and sound devices from 1995 to 1997, the permittee considered fish guidance lights to be more effective in preventing fish from being trapped and killed. In October 1998, the Executive Director approved the permittee's installation plan for the lights and the lights were installed in December 1998.

A three-phased experiment to evaluate the effectiveness of the fish guidance lights was conducted between February and December 1999. Initial data from the early phases seemed to indicate that rather than attracting fish to the fish return system the lights repelled the fish. A new experiment was initiated in the final phase to evaluate whether eliminating light could be used as an effective means of reducing impingement losses of fish. Results from these experiments showed no evidence that installing lights in the cooling water systems of Units 2 and 3 would reduce fish impingement losses.

At the October meeting, staff will present to the Commission for discussion and possible action its conclusions on the effectiveness of the behavioral barriers. Please see the staff report *Executive Director's Determination that Fish Behavioral Barriers Tested at SONGS are Ineffective*, dated September 22, 2000 (Item No. Thursday-15), available upon request.

## MARINE MAMMALS AND SEA TURTLES

In December 1999, the staff updated information on the mortality of marine mammals (harbor seals and sea lions) at SONGS first presented to the Commission in May 1997 and presented new information on the entrainment of sea turtles at SONGS. The staff also reported on the next steps to be taken to minimize these deaths and entrainments.

The staff is working closely with SCE biologists to reduce mortality by recovering and returning marine mammals in a more timely fashion. The SCE biologists and Commission staff scientists are also working closely with the National Marine Fisheries Service to review the current status of marine mammal takes by coastal

power plants (including SONGS Units 2 and 3) and to implement a policy consistent with that now in effect on the east coast.

The yearly long term average mortality for harbor seals and California sea lions for SONGS Units 2 and 3 combined is three and seven, respectively. The most current data show that sea lion mortality in 1999 was four (about one-half the long term average), whereas harbor seal mortality was six, twice the long term average. Through May 2000, three sea lions and four harbor seals have died in Units 2 and 3. This is close to the long term average for sea lions and between 2 to 3 times the long term average for harbor seals. There was no mortality of sea turtles in 1999 or 2000.

No harbor seals, sea lions, or sea turtles have been entrained into SONGS since August 17, 2000, when the last *Status Report on the SONGS Mitigation Program* was prepared and distributed to the Commission.

The staff will continue to update the Commission on a quarterly basis, or more frequently if there are unforeseen catastrophic mortalities. In cooperation with SCE and other involved agencies and interested parties, the staff also will assemble a working group of scientific experts to more fully explore possible ways of minimizing the entrainment and deaths of harbor seals, sea lions and sea turtles. The staff hopes to report back to the Commission on the results of this working group later this year.

