

**CALIFORNIA COASTAL COMMISSION**

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# Tu-12

Energy and Ocean Resources Unit

Staff: JLL, SMH—SF

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## 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. 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.

#### Progress Report

The wetland restoration mitigation project is 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 which also includes additional wetland restoration required under the permittee's settlement agreement with the Earth Island Institute.

The CEQA/NEPA documentation is currently being prepared by the lead agencies, the San Dieguito River Valley Regional Open Space Park Joint Powers Authority (JPA) and U.S. Fish and Wildlife Service. An administrative draft EIR/S was circulated in June

1999 to the involved local, state and federal agencies. Review of the administrative draft revealed a number of issues that required additional detailed analyses. The EIR/S team members have been working cooperatively to resolve issues related to the habitat plans. The EIR/S team agreed to conduct further analyses to establish the upper boundary for high salt marsh so that acreages for existing and created or restored wetlands can be determined. SCE is cooperating in obtaining the necessary additional data. It is not yet known how significantly the new analysis will affect the EIR/S process.

## **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**

At the conclusion of the environmental review process for the reef mitigation, the State Lands Commission certified the final PEIR and issued the offshore lease for the experimental reef in June 1999. The Commission approved the coastal development permit for the experimental reef (E-97-10) and the monitoring plan in July, and the U.S. Army Corps of Engineers issued its permit in August.

SCE is continuing to move the experimental reef project along (see attached Engineering News-Record article dated September 6, 1999). Construction of the artificial reef began on August 18, 1999, and as of September 21, 1999, 40 of the 56 modules have been completed. Construction is scheduled to be completed by October 1, 1999 to avoid conflicts with the commercial lobster fishing season. In the event of unplanned delays due to weather, construction has been conducted so that all modules near sensitive lobster and sport fishing habitats will be completed before October 1.

Shortly after construction, the physical dimensions of each module are monitored on the surface using differential GPS with an accuracy of about 1-foot. In addition, the outline (also termed the "footprint") and the percent cover of each module is monitored with high-resolution side scanning sonar. As a final check, each module is inspected by divers to estimate vertical relief and the degree of overlapping or piling up. SCE presented the results of construction monitoring of modules 1 through 24 to the staff on

September 17, 1999. The staff was pleased to find that the footprints and percentage covers of the modules conformed very closely to the design specifications, and that the construction monitoring is being well-executed and done in a timely manner.

While the modules are being constructed, the staff has been conducting field and analytical work to determine the locations of reference sites in nearby natural kelp forests. This work has resulted in a list of 7 likely reference sites in the San Mateo, San Onofre, and Barn kelp beds. The staff has forwarded the locations of these sites to SCE's consulting biologists and hopes to gain consensus on the appropriateness of these reference sites. The staff's other main area of work on the reef project has been assembling the materials, equipment and personnel necessary to begin post-construction monitoring of the experimental reef and reference site.

## **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**

Following the permittee's experiments on light and sound devices, 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.

Monitoring to evaluate the effectiveness of the fish guidance lights began in March 1999. Initial data seems to indicate that rather than attracting fish to the fish return system the lights are repelling the fish. The staff is working with SCE to design and implement additional experiments on the lighting system.

## Reefs

# EXPERIMENTAL KELP BED PROJECT LAUNCHED OFF CALIFORNIA COAST

A 22.5-ACRE EXPERIMENTAL KELP reef has begun to take shape in the ocean waters a half-mile off San Clemente, Calif., in the first phase of a project that combines environmental mitigation with scientific study. Using sonar and global positioning technology, a contractor is precisely placing quarried rock and crushed concrete in 56 modules, each 40 meters square.

The project is intended to mitigate damage to kelp beds believed to be caused by heated water discharged from Southern California Edison Co.'s San Onofre nuclear generating station (ENR 7/27-8/3/98 p. 16). Rosemead-based SCE received a U.S. Army Corps of Engineers permit Aug. 13, allowing Pier T Constructors, a Long Beach, Calif.-based joint venture of Manson Construction Co. and Connolly Pacific Co., to kick off the five-year, \$3-million pilot study phase. Pier T is placing the material in water ranging from 37 ft to 55 ft deep, says Larry E. Deysher, senior scientist at Vista, Calif.-based Coastal Resources Associates Inc., the project's marine design consultant.

Marine scientists will use the **CONCRETE PROGRESS** Long-planned project is under way.



results of the pilot study to determine the combination of substrate material and density that best promotes kelp growth. Ultimately, the reef will be expanded to a projected 133 acres.

The project's lead agency, the California Coastal Commission, estimates the cost of the full-size reef at \$53 million. Combined with related wetlands mitigation and a fish-restoration program, the total project is estimated at \$118 million. But "we aren't sure what it's going to cost us," says Frank L. Melone, the utility's project manager.

Manson and Connolly Pacific are racing to wrap up work by Oct. 1 to avoid the onset of lobster fishing season, Melone says. Besides working within time constraints, the experimental nature of the project requires the contractor to "be very precise in placing the material and achieving the density that we're looking for," Melone says.

Half the modules will use quarried rock and half will use recycled concrete. In addition to global positioning satellite and conventional side-scan sonar, multibeam sonar will help place the material at the correct elevation, Deysher adds. The rate of coverage of the ocean floor will vary by module from 17, 33 and 67%. Two 250-ft-long derrick barges convey the material to the site, where front-end loaders push the material off the side. Melone says, "We're right on schedule to complete this thing by the end of September." □

By Paul B. Rosta

## People

# ENGINEER SEEKS TOP ISLAND SLOT

THE ENGINEER RESPONSIBLE FOR GETTING a number of large infrastructure projects off the ground in Puerto Rico is now running for governor of the Caribbean commonwealth.

Carlos I. Pesquera has resigned as Secretary of the Puerto Rico Dept. of Transportation and Public Works, where he was responsible for all surface transportation, to campaign full time.

On his watch, the commonwealth finished a cross-island highway that had

been under construction for about 20 years and started work on the \$1.5-billion Tren Urbano, a San Juan heavy rail commuter system.

In 1998, Gov. Pedro Rosselló appointed him executive director of the Infrastructure Financing Authority, which is developing drinking water and wastewater treatment projects across the island.

Pesquera says a major plank in his campaign platform will be further im-

provements to the island's infrastructure. He decided to run when Rosselló declined to seek a third term. He faces stiff opposition from San Juan Mayor File Calderon, the pro-commonwealth Popular Democratic Party candidate. Pesquera represents the pro-statehood New Progressive Party. Both parties advocate continued strong ties with the U.S.

Some worry that Pesquera's lack of political experience will hurt him. "It will be a strong fight," says Emilio Colón, former head of the island's water and wastewater agency and an official with the U.S. Army Corps of Engineers.

Pesquera holds a Ph.D. in Structures from Cornell University. He was the founding director of the Civil Infrastructure Research Center at the University of Puerto Rico, Mayaguez, where he was a professor of civil engineering. □



**CANDIDATE** Pesquera runs.