California Regional Water Quality Control Board

Los Angeles Region

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Arnold Schwarzenegger
Governor

December 6, 2005

Mr. Roy Craft
Plant Manager
El Segundo Power, LLC
301 Vista Del Mar
El Segundo, CA 90245

PHASE II 316(B) PROPOSAL FOR INFORMATION COLLECTION AND IMPINGEMENT MORTALITY AND ENTRAINMENT CHARACTERIZATION STUDY SAMPLING PLAN, EL SEGUNDO POWER, LLC; EL SEGUNDO GENERATING STATION, NPDES PERMIT NO. CA0001147, CI-4667

Dear Mr. Craft:

Reference is made to the November 17, 2005 comment letter submitted by El Segundo Power, LLC (ESP), along with a revised Phase II 316(b) Proposal for Information Collection (PIC) and Impingement Mortality and Entrainment (IM&E) Characterization Study Sampling Plan (Sampling Plan) for the El Segundo Generating Station (ESGS) dated November 17, 2005. This additional information was submitted in response to initial comments made by the Regional Board staff on October 21, 2005.

In general, the revised PIC submitted generally meets the requirements of the 316(b) Phase II regulations in 40 CFR 125.95 (a)(1) and (b)(1). The Regional Board staff have no objection to you implementing the revised PIC as proposed subject to the following conditions:

1. Hydrologic modeling to identify cooling water intake structure (CWIS) radius of influence (ROI) and cumulative impacts evaluation

The delineation of the ROI is essential for evaluation of impacts in the vicinity of ESGS. Assessment of the ROI provides a hydrodynamic characterization of the effective reach of the ESGS intake systems into Santa Monica Bay.

Such delineation of the ROI is required to quantify the region of the Santa Monica Bay (and associated volume) within which the biota are directly impacted by ESGS. This information shall be used to design a sampling plan and select sample locations that will enable quantification of such impacts. As such, the Regional Board staff recognize that historical sample locations are to be incorporated into the sampling plan to allow analysis and comparison to historical data collection.

The Regional Board staff acknowledge that the delineation of the ROI and incorporation into a sampling plan will prove useful when aggregated with similar studies from other Santa Monica

Bay power plants (Los Angeles Department of Water and Power, Scattergood and AES Redondo Beach). Although cumulative impact studies are not required as part of the Phase II rule, the United States Environmental Protection Agency (USEPA) does not discount the possibility of cumulative impacts nor does it proscribe or discourage their inclusion as part of the evaluation process. USEPA notes that cumulative impact studies available at the time of rule development were insufficient to make any determination as to the exact nature or extent of cumulative impacts but acknowledges anecdotal evidence suggesting the need for further evaluation. USEPA presents the example of impacts identified at three Hudson River facilities in New York stating "[t]he multiple facilities on the Hudson River act cumulatively on the entire aquatic community" (69 FR 41587).

Decisions regarding the need for cumulative impact studies are reserved for the permitting authority. 40 CFR 125.90(d) preserves the right of an authorized agency to "adopt or enforce any requirement…that is not less stringent than those required by Federal law." In addition, in accordance with Section C, Page C-1, Action for Bay Restoration of the Santa Monica Bay Restoration Plan, the goals are to "Restore, rehabilitate, and protect the marine ecosystem, living resources, and biodiversity of the Santa Monica Bay and its watershed." As such, the Regional Board staff recognize that a cumulative impact study is in keeping with the stated goals of improving the overall aquatic health of Santa Monica Bay.

2. Calculation baseline and Velocity Cap Inlet

In section 2.5, ESGS states the following: "Therefore, ESGS has demonstrated through site-specific studies of its existing, in-use intake velocity caps that the facility is in full compliance with the applicable performance standard for impingement mortality. Further justification for this is provided in Section 4.1.1 of this PIC."

Based on the requirements of 40 CFR 125.95, this statement cannot be considered accurate. Use of any technology, including velocity caps, must be demonstrably shown to achieve, either in whole or in part, compliance with the appropriate performance standards *by the Discharger* [emphasis added].

40 CFR 125.95(a)(4)(i) requires the Discharger to submit, as part of the comprehensive demonstration study, the following:

(C) Calculations of the reduction in impingement mortality and entrainment…that would be achieved by the technologies and or/operational measures [the Discharger has] selected; and
(D) Design and engineering calculations, drawings, and estimates prepared by a qualified professional to support the description [of design and construction technologies that will be used to meet the requirements to reduce impingement mortality and entrainment].

In addition, Section X.B of the preamble to the Phase II rule discusses USEPA's use of model facilities in the development of engineering cost estimates and technology performance profiles. USEPA notes on 69 FR 41649 that:

> "While the Agency is confident that the suite of available technologies can achieve the performance standards…, EPA lacks sufficient data to determine the precise performance of each technology on a site-specific basis[.]"

Regional Board staff acknowledge the additional data included in PIC Section 5.1.1 and recognize the potential for the velocity cap configuration at ESGS to contribute to meeting the performance standards under the Phase II rule. However, inclusion of any statement in the PIC that, intentionally or otherwise, conveys any sense of approval by the Regional Board of a specific technology currently in use for the purposes of determining compliance with Phase II requirements, is at best premature. The Regional Board, as the delegated authority for NPDES permits in the Los Angeles Region, will make all determinations as to BTA with regard to ESGS at such time when all supporting documentation has been submitted and reviewed, thereby making a final determination feasible.

3. Impingement Mortality and Entrainment Sampling

Fish Eggs

As discussed in the October 21, 2005 letter from the Regional Board to ESP, fish eggs should be included in any analysis of entrainment at ESGS. Specifically, "The egg represents a critical life stage, the presence and abundance of which may not be accurately represented based on larval, juvenile, and adult presence." Therefore, Regional Board staff believe that the entrainment study should include not only enumeration of collected fish eggs, but also identification of collected eggs to the lowest practical taxonomic level. Enumeration and identification of fish eggs in the entrainment study should be included not only to increase the scientific validity of the study and allow for a more accurate estimate of entrainment effects, but also because the Phase II regulations mandate their inclusion. Specifically, 40 CFR 125.95(b)(3) states that the impingement mortality and/or entrainment characterization study must include "taxonomic identifications of all life stages of fish, shellfish, and any species protected under Federal, State or Tribal Law (including threatened or endangered species) that are in the vicinity of the cooling water intake structures(s) and are susceptible to impingement and entrainment".

Target Taxa

Regional Board staff agree that it is not appropriate to perform assessments of population-level impacts on all taxa collected during this study. However, it should be emphasized that it is appropriate to count and identify all collected organisms. Where appropriate and as indicated in the sampling design, collected samples may be sub-sampled, but enumeration and identification of all collected taxa is critical to completion of a scientifically defensible study. Therefore, specific data analysis techniques may be used for selected taxa, but all taxa regardless of abundance or commercial/recreational importance should be counted and identified in samples.

Cancer Crabs

ESP has placed emphasis on cancer crabs to the exclusion of other crabs collected during impingement and entrainment sampling because "they are the most important commercial and recreational group of crabs found in the vicinity of the ESGS". Further, ESP states that "ESP believes that 'shellfish' refers to species of crustaceans and mollusks that are targeted by commercial and recreational fisheries". While Regional Board staff agree that inclusion of commercially and recreationally important crustaceans and mollusks are important to the evaluation of entrainment and impingement mortality at ESGS, we disagree with ESP's definition of shellfish. As noted above, 40 CFR 125.95(b)(3) states that the impingement mortality and/or entrainment characterization study must include "taxonomic identifications of all life stages of fish, shellfish, and any species protected under Federal, State or Tribal Law (including threatened or endangered species) that are in the vicinity of the cooling water intake structures(s) and are susceptible to impingement and entrainment". The regulation is not limited to recreationally or commercially important shellfish, but includes all shellfish in the vicinity of the CWIS. Regional Board staff recommend that all shellfish (typically meaning crustaceans and mollusks) collected in impingement and entrainment samples be enumerated and identified to the lowest practical taxonomic level.

Regional Board staff caution that all samples should be preserved until the issues regarding enumeration and identification of all organisms are resolved; nothing should be discarded that may potentially add to the study.

If you have any questions, please contact David Hung at 213/576-6664 or Dr. Tony Rizk at 213/576-6756.

Sincerely,

ORIGINAL SIGNED BY

Jonathan S. Bishop
Executive Officer

Cc: See mailing list

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