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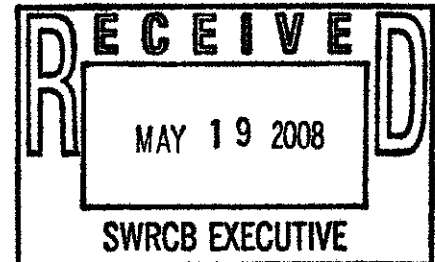


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May 16, 2008

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, California 95814



Subject: Comment Letter – Once-Through Cooling Policy

Dear Ms. Townsend:

Thank you for providing the California State Lands Commission (Commission) with the opportunity to comment on the State Water Resources Control Board's (Board) proposed Water Quality Control Policy (Policy). We found it to be a well-organized and researched document. While in general, we concur with the staff recommendations regarding development and implementation of the policy, we do have some comments which are provided below.

Scoping Document

- 1. Co-Location of Desalination Facilities:** As the Board is aware, ten of the 21 coastal power plants which utilize OTC systems, maintain associated seawater intake and/or outfall facilities which are located on sovereign lands under the jurisdiction of the Commission. While we understand that this document is intended to only address the proposed Policy regarding the use of coastal and estuarine waters for power plant cooling in accordance with section 316(b) of the Clean Water Act (CWA) and section 13142.5 of the Water Code, we believe that there is a potential for significant impacts to occur to fish and other aquatic organisms as the result of the co-location of proposed desalination facilities with coastal power plants. These potential impingement/entrainment (I/E) impacts will occur when the coastal power plants either shut down or employ closed cycle cooling systems in place of once-through cooling. Once the power plant ceases use of large quantities of intake water, the co-located desalination plants will necessarily have to find replacement water. This may result in the shunting of intake water once used to service the power plant to the desalination plant. Given this situation, I/E impacts would continue. In addition, once all the power plants have come into compliance with the OTC Policy, the largest diverters remaining will be the co-located desalination facilities.

This is an issue that is not addressed under existing NPDES permit requirements (pages 33-34 of the Scoping Document), but needs to be addressed in the near future, potentially under the Porter-Cologne Act, by the State Water Resources Control Board (SWRCB).

- Habitat Restoration:** As stated on page 46 of the Scoping Document, habitat restoration alone cannot be considered compliance with section 316(b) of the CWA. However, the Scoping Document is suggesting that habitat restoration be encouraged to offset losses on an interim basis. The Document then discusses the habitat production foregone (HPF) method for determining entrainment losses and characterizes HPF as being one of the most promising methodologies for assessing losses.

However, on January 15 and 16, 2008, a Research Results Symposium on "Understanding the Environmental Effects of Once-Through Cooling" was held at UC Davis. Some of the comments made at the symposium included acknowledgment of the uncertainty and error surrounding estimates of needed inputs into the model including larval survival rates, fecundity, population, etc.; the fact that the HPF method is very difficult to calculate for pelagic species; and that since the amount of restoration needed is driven by the species, if the species is not habitat limited, that species will not benefit from the restoration. We request that you maintain an open mind regarding other methods. As noted by Dr. Elizabeth Strange at the symposium, what really may be needed is an estimate of the number of fish per unit area per unit of time, e.g., the rate of change, rather than an estimate of the number of fish per unit area at a single point in time, which is what the HPF method provides. Regardless of the method of determining losses, a monitoring component with identified performance standards to determine the ecological benefits of the restoration must be included as part of any habitat restoration proposal.

Should the HPF method be used, we suggest that thought be given to a restoration ratio greater than 1:1. In terrestrial systems, it is acknowledged that due to the amount of time required for new habitat to become "functional", ratios are established at something greater than 1:1 to compensate for that lost time. Therefore, with respect to I/E losses, the restoration requirement should account for the time lag from the beginning of the restoration action until benefits begin to accrue, the maximum life span of the restoration benefits, and the point of maximum benefit. Additionally, the restoration ratio selected needs to account for the fact that the eggs and larvae entrained by OTC facilities are part of the larger food web that sustains numerous aquatic species. Therefore, the loss of eggs and larvae not only impacts the species whose eggs and larvae are entrained, but also those species that rely on them as a food source.

- Expert and Scientific Review:** We fully support your contract with the Moss Landing Marine Laboratory to convene an Expert Review Panel (ERP) to review

this scoping document and proposed policy as well as external scientific review once the draft policy and substitute environmental policy are released.

4. **Economic Analysis:** The economic analysis should consider the monetary value associated with the annual impingement and entrainment losses of 28.9 million pounds of fishery yield and 43.6 future biomass production due to OTC (page 76).

Draft Policy

1. **Compliance Alternatives:** The draft policy proposes two "tracks" for achieving compliance dependent on the ability of a facility to convert to a wet or dry closed cycle cooling system. As provided in the Scoping Document, Track 1, conversion to a closed cycle cooling system, is intended to achieve a 90 to 95 percent reduction in existing I/E losses. Track 2 is intended to achieve a 90 percent reduction in the existing I/E losses that could have been achieved under Track 1. Therefore, under Track 2, as much as 19 percent of the original losses would continue to occur. It is our opinion that this residual ongoing impact associated with Track 2 requires mitigation perhaps in the form of a habitat restoration component. Information regarding the underlying rationale for selecting the 90 percent reduction under Track 2 should also be provided.

Regardless of the Track selected, quantification of I/E losses at each facility before and after achieving compliance with the Policy will be needed. Such losses will have to be quantified for Track 1 as well, so that Track 2 can be estimated. As with all statistical tools, confidence intervals and measures of accuracy and precision will be an issue. Differentiating 90 versus 85 versus 95 percent reduction will be difficult. Implementation of this Policy needs to be structured such that the funds necessary to perform the statistical analyses for quantifying I/E impacts are not diverted from those funds necessary to minimize and mitigate the impacts.

We also suggest that additional mitigation, such as habitat restoration, be required for those facilities that comply with the Track 1 requirements, but do not use recycled water of suitable quality as makeup water.

2. **Final Compliance Dates/Interim Requirements:** The compliance dates associated with the implementation of this proposed policy are January 1, 2015, and January 1, 2018, for non-nuclear fueled power plants depending on their capacity utilization rate; and January 1, 2021, for nuclear fueled power plants. While we would prefer earlier implementation we recognize the sensitivity of the electric power grid and the need to minimize large-scale disruptions in service. Therefore, we support the provision of interim requirements in the policy. However, with respect to 2.C.(3), please consider our comments above regarding restoration proposals. The inclusion of a

monitoring program with performance standards would enable the SWRCB to determine the ecological effectiveness of the habitat restoration projects. If the performance standards are not met, adaptive management could then be utilized to achieve a more positive outcome.

3. **Track 2 Monitoring Provisions:** With respect to I/E impacts, baseline I/E studies are required as is subsequent periodic sampling. We suggest that these studies also be subjected to independent scientific review to determine their adequacy.

If you have any questions regarding our comments, please do not hesitate to contact Ms. Marina Brand at (916) 574-1814.

Sincerely,



PAUL D. THAYER
Executive Officer

cc: Marina Brand
Gail Newton
Barbara Dugal