

15 September 2006

Song Her
Clerk to the Board
State Water Resources Control Board
1001 "I" Street
Sacramento, CA 95814



Dear Song Her:

MBC *Applied Environmental Sciences* (MBC) appreciates the opportunity to provide comments on the State Water Resources Control Board's proposed statewide 316(b) policy. MBC is an environmental consulting firm currently involved in 316(b) compliance activities for 9 of the 13 coastal generating stations in southern California, including Impingement Mortality and Entrainment (IM&E) Characterization study design and implementation, document preparation, compliance planning, and support services. Our experience with Section 316(b) spans three decades, as MBC biologists worked with representatives from state and federal resource agencies to design and conduct IM&E studies at coastal generating stations in the late 1970s.

Our comments are mostly directed at provisions related to the conduct of IM&E studies and subsequent data analysis.

Timeline of Implementation

Most of the IM&E studies we are currently conducting are two-thirds complete. It is unclear how proposed study requirements that are more stringent than those in the Federal Regulations (e.g. quantification and identification of zooplankton) could be fulfilled and still provide sufficient time to complete the Comprehensive Demonstration Studies by 7 January 2008 as required in the Phase II Final Regulations. The effective sampling of zooplankton would require alternative sampling methods than those currently employed in California--specifically the use of finer mesh nets.

Monitoring and Modeling

The multiple entrainment studies we are currently conducting include the collection and analysis of (1) all fish eggs, (2) all fish larvae, and (3) target shellfish larvae, such as crab megalops, California spiny lobster phyllosoma, and market squid larvae. The rationale for the requirement to collect and analyze all zooplankton is unclear. The U.S. Environmental Protection Agency (EPA) differentiates shellfish from zooplankton in the preamble to the Phase II Final Regulations (p. 41586).

Zooplankton are generally excluded from entrainment assessments since the potential for detectable impacts to these organisms is minimal. Reasons for this low potential of impact to zooplankton include: (1) the widespread distributions (spanning large oceanic areas) of most taxa, (2) the relatively short reproductive times of most taxa, and (3) their ability to withstand physical entrainment stresses compared to ichthyoplankton. Studies performed for the Marine Review Committee at San Onofre Nuclear Generating Station, which accounts for

approximately one-fourth of permitted cooling water withdrawal in southern California, determined that "*in fact no substantial changes have occurred in the zooplankton...*".

The Habitat Production Foregone (or Area of Production Foregone) is undoubtedly a valuable technique in determining potential restoration areas in certain applications. This technique has limitations, as well, and these should be considered prior to application of this methodology. If fish/shellfish distribution/abundance data are available from a potential restoration site, it may not be necessary to calculate Area of Production Foregone. Careful consideration should be taken to choose the most appropriate methodology to determine proper restoration amounts.

Restoration

The use of restoration should not be deleted or limited as a compliance alternative. EPA intended restoration to provide additional flexibility not only to Phase II facilities, but also to permitting authorities, in meeting the performance standards (p. 41609). Since a facility must first demonstrate that technologies/operational measures are less feasible or less environmentally-desirable than meeting the performance standards (in whole or in part) through restoration, it is unclear why the State Water Resources Control Board would further limit the use of restoration.

Cumulative Impacts

Reference is made to the cumulative impact analysis performed as part of the AES Huntington Beach Entrainment and Impingement Study (MBC and Tenera 2005). Specifically, the Scoping Document summarizes the analysis by stating that within the Southern California Bight "*there is an overall cumulative entrainment mortality of 1.4 percent.*"

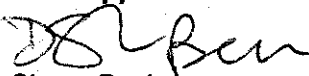
The value cited for cumulative entrainment mortality (1.4 percent) was an estimate that was not based on biological data collected at any of southern California's coastal generating stations. It was based on (1) an assumed source water extending to the 75-m isobath, (2) a larval duration of 40 days, and (3) maximum permitted cooling water flow at all generating stations. Therefore, this value should not be cited as a reliable estimate of cumulative larval entrainment. Data being collected as part of 316(b) IM&E Characterization Studies will undoubtedly allow for a more accurate estimate of potential cumulative effects.

Finally, it would be helpful to clarify how results of a cumulative impact study would be used for compliance.

Thank you again for the opportunity to comment. Please feel free to call me if you have any questions.

Respectfully,

MBC Applied Environmental Sciences


Shane Beck
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