From: Joy, Jayne@Waterboards
Sent: Thursday, May 10, 2018 5:58 PM
To: Scott Maloni <smaloni@poseidonwater.com>
Cc: Smythe, Hope@Waterboards <hope.smythe@waterboards.ca.gov>
Subject: Outstanding Questions wrt ETM/APF Analyses

Scott,

This email is in response to your conversation with Hope last week. We have reviewed your comments on our overview of the meeting and incorporated many of your additions into the final document. We also restored Sections A, B, and D. Sections A and B identify our points of agreement and staff's outstanding information requests from Poseidon, and both are critical to moving forward in this review process. Section C of the document includes the outstanding questions identified in our meeting. These outstanding questions are meant to capture the topics that Water Boards staff and Coastal Commission staff think should be presented to an independent expert if we proceed with review outside of the CalEPA peer review process. Staff would still need to work on fleshing out these topics related to ETM/APF to develop more specific questions to submit to the independent expert.

We did receive your email requesting a meeting, I will talk with Hope on Monday and we will follow up with you next week.

Any questions, please contact me.

Thanks,

Jayne

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ETM/APF analyses for proposed Huntington Beach Desalination Project – 4/13/18 meeting with Santa Ana Regional Water Board, State Water Board, Coastal Commission, and Poseidon

This document provides a summary of items discussed during the 4/13/18 meeting about ETM/APF analyses for the proposed Huntington Beach Desalination Project (Project), including items on which we achieved consensus (section A), outstanding questions for Poseidon (section B), questions for independent expert review (section C), and a theoretical question about ETM/APF methodology (section D). In response to section B, Poseidon provided submittals on 4/27/18 and 5/7/18 to staff from the Santa Ana Regional Water Board, State Water Board, and Coastal Commission (collectively, Agencies' staff). Section C is an overview of the general questions related to specific components of the ETM/APF analyses that Agencies' staff has identified for independent expert review.

A. <u>Items on which we achieved consensus</u>
   1. How to calculate P_E
   2. Use of standard error instead of standard deviation
   3. Inclusion of CIQ gobies, their classification as estuarine, and NWI as basis for some of the total source water body (see section C.2 below)
   4. f_i includes sampling period length

B. <u>Outstanding questions for Poseidon (Poseidon provided submittals on 4/27/18 and 5/7/18 in response to these questions)</u>
   1. How were the sample source water body (SSWB) areas calculated for each taxon used in Tenera 2010? Were the 2007-2008 current data used to calculate the sample source water body areas in Tenera 2010 or was the same SSWB used as in MBC and Tenera 2005? (see section C.1b below)
   2. Please provide an explanation and justification for the change between MBC and Tenera 2005[1] and Tenera 2010[2] in the offshore displacement used to calculate the total source water body (TSWB) for each taxon (i.e., change from 5 km to 4.45 km).
      a. Was the same alongshore displacement used for calculating the TSWB for each taxon in MBC and Tenera 2005 and Tenera 2010? If no, please provide justification and explanation for these changes as well.
   3. Please provide a complete discussion of how the larval length data were used in Tenera 2010 and how and why they differed from the larval length data in MBC and Tenera 2005, including:
      a. How and why the Markov Chain Monte Carlo method was used to resample the larval length data from MBC and Tenera 2005
      b. Why sometimes the 10th percentile was used instead of the 1st percentile
      c. Why the following equation was used to estimate hatch lengths for combtooth blennies only:
         1. Hatch Length = (Median Length + 1st percentile Length)/2

[1] MBC Applied Environmental Sciences and Tenera Environmental, Inc. (MBC and Tenera). 2005. AES Huntington Beach LLC Generating Station Entrainment and Impingement Study: Final Report. Prepared for AES Huntington Beach LLC, Huntington Beach, California and California Energy Commission, Sacramento, California. April 2005.

[2] Tenera Environmental, Inc. (Tenera). 2010. Entrainment and impingement effects from operation of the Huntington Beach Desalination Facility in standalone mode. Prepared for Poseidon Resources. Appendix M in Dudek. (2010). Draft Substitute Environmental Impact Report for the seawater desalination project at Huntington Beach. State Clearinghouse No. 2001051092. Prepared for the City of Huntington Beach.

4. Please provide the sampling period frequency and length (used in f_i calculations) for the 2003-2004 sampling data.

C. <u>Questions for independent expert review</u>
   1. Current velocity data:
      a. Given the two different monitoring locations, types of equipment used, and sampling periods, and based on guidance provided in the Final Staff Report for the Desalination Amendment to the Ocean Plan, which of the two Orange County Sanitation District oceanographic datasets should be used as the basis for determining the Project's source water bodies: 1999-2000 or 2007-2008?
      b. Is it appropriate to use the same dataset as the basis for all the total source water bodies (TSWBs) and sample source water body (SSWB)? Or can a combination of the datasets be used (e.g., use the 2008-09 data for TSWBs and the 1999-2000 data for the SSWB)?
      c. Finally, how should the selected dataset be used to generate the offshore component of the source water bodies?
   2. In addition to the habitat identified in the National Wetlands Inventory, should Long Beach Harbor be included as potential habitat for CIQ gobies for calculating the TSWB? (CIQ gobies are known to be present in the harbor and may be a source of larvae to the Project site.)
   3. Should P_S be estimated for each survey period? Or should a constant value be used for all surveys over the entire year?
   4. Classification and choice of taxa:
      a. Should combtooth blennies and diamond turbot be classified as open ocean species as they were in MBC and Tenera 2005 and Davis et al. 2006? Or should they be classified as estuarine taxa as has been done in the draft Environmental Impact Report for the proposed West Basin Ocean Water Desalination Project? (Combtooth blennies also were classified as estuarine for the Carlsbad Desalination Project.)
      b. Should the taxa included in the original ETM analysis for the Huntington Beach Generating Station in MBC and Tenera 2005 and Davis et al. 2006 be used for the Project? Or should additional taxa be added to the ETM/APF analyses for the Project (e.g., salema, northern anchovy, jacksmelt, sand crab)? Why or why not?
      c. What is the scientific rationale for consideration of which taxa to include or exclude?
   5. Should the duration of the egg stage (if known) be accounted for in determining larval duration?
   6. After reviewing the ETM/APF analyses conducted by Poseidon and the Agencies' staff, including their underlying assumptions, which analysis best estimates the compensatory mitigation acreage needed for the Project? Is there additional analysis that would improve the accuracy of this estimate, and if so what?

D. <u>Theoretical questions raised about ETM/APF methodology (not project-specific questions)</u>

   1. The SSWB in MBC and Tenera 2005 was reported to be less than the size actually needed to encompass the area over which larvae would be entrained within a 24-hour period. If the SSWB is not actually the area that would be considered representative of what would be at risk of entrainment, does this need to be accounted for?

DRAFT