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From: Catherine Hagan (George) [chagan@waterboards.ca.gov]
Sent: Sunday, March 08, 2009 9:13 AM
To: Halter, Amanda (OC); Garrett, Christopher (SD); Singarella, Paul (OC); PMacLaggan@poseidon1.com
Cc: Chiara Clemente; Deborah Woodward; Philip Wyels
Subject: Comments on Poseidon Supplemental Statement of March 5

All,

Following are comments on the draft supplemental statement on impingement, submitted at 7:31 on March 5. Please feel free to call me if you have any questions.
Catherine
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We recognize that the "Draft Supplemental Impingement Statement" (received 3/5/09 7:31 PM) was a work in progress that couldn't reflect all of the issues we discussed earlier that day. To help ensure that the Minimization Plan that will be submitted on Monday will be acceptable and defensible, we're providing you with the following comments for incorporation into the Minimization Plan:

1. Poseidon needs to clearly explain how the 37 (or 55) acres of mitigation will adequately compensate for both impingement and entrainment losses, given that the mitigation was originally proposed just for entrainment losses. The explanation needs to clearly identify the issue (the miscalculation leading to the prior de minimis impingement conclusion), present a balanced comparison and evaluation of the three approaches for estimating impingement losses, and contain a clear conclusion regarding how the proposed mitigation satisfies the 13142.5(b) "best available … mitigation feasible" standard.

2. Mr. Norby's statement sets up comparisons that are not entirely appropriate as presented, and therefore should be adjusted as follows:
a. The three approaches do not use the same groups of organisms for comparison. The Regression Analysis (Approach #1) is for fish + invertebrates (combined weight). The other two approaches are for fish only. Also, the text for the Regression Analysis erroneously states that the points on the graph are for the total weight of fishes when really they are for the combined weight of fishes and invertebrates. The same group of organisms should be used for all three approaches, and the text should correctly reflect which group was used.
b. The three approaches should provide comparable "results of model." The Proportional Model (Approach #3) gives a numerical result for fish number and fish weight. The Regression Analysis gives a result for weight only. The Assumed Equivalence (Approach #2) gives no numerical result at all; the result should have been stated as 374 fish per day weighing 7.1 kg per day (or the sum of the fish + invertebrates if Poseidon uses the combined group across all three approaches, i.e., 412 fish/inverts per day weighing 7.5 kg per day).
c. The three approaches should use the same number of sample days. The Regression Analysis is n=50, the other two approaches are n=52. All three approaches should be done for n=52 and with n=50 for cleaner comparisons.

3. The Regression Analysis needs to identify the dates of the "outliers" and explainwhy they were left out. If Poseidon thinks these data are not representative, there has to be a clear explanation for this. [Staff's view is that the "outlier" dates are associated with high impingement during weeks of high rainfall and, therefore, reflect conditions in the lagoon that should not be left out of the projection; there are likely to be storms.] Also, in the linear regression,

Poseidon should explicitly acknowledge that it is extrapolating to a point outside the range of data (304 MGD), which means lower confidence in the result.

4. The statement should point out that the relationship between flow and impingement for the EPS data is without two days of high impingement. One example (p. 6, 3a): "Inspection of the graph of the EPS data shows that reduced flows result in lower impingement…there are generally higher losses at the higher flow rates and lower losses at the lower flow rates." In reality, there was a very high impingement day at 307 MGD and another at 560 MGD, and the above statement should either acknowledge the data from these days and explain the rationale for excluding them, or include them..

5. There are several references to reducing velocity at the bar racks, but already there is so little impingement at the bar racks that the bar racks are not the problem – the highest impingement occurs at the rotating screens (e.g., in 2004-05, the bar racks and rotating screens impinged 34 and 19,408 fish, respectively). Also, it does not appear that Poseidon has stated what the velocities were at the bar rack when sampling was done in 2004-05 or what they are now, which means staff can not fully evaluate the expectation of reduced impingement due to a future reduction in velocity. The same is true for the rotating screens. Poseidon has not provided an analysis of the 2004-05 data in terms of velocity and levels of impingement, so the conclusions are lacking in evidentiary support.

6. There is still ambiguity in the way Poseidon uses the term "sampling period" (p.1). Poseidon gives 657 MGD as the average EPS flow volume for the 2004-2005 sampling period. According to Poseidon's earlier submittal, 657 MGD was for the 52 samples. The Minimization Plan always needs to be clear as to whether it is referring to the 52 samples or the entire year.

7. The names of the approaches are a bit pejorative. In staff's opinion, words like "Assumed" or "Model" should be in all or none of the names of the approaches. An example of none would be: Flow proportional - regression analysis; Flow proportional – proration, Equivalence. This may seem like a minor issue, but it goes to the balance of the analysis, which ultimately affects its credibility and support for the Regional Board's action.

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