



May 7, 2009

John Robertus, Executive Officer
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San Diego Regional Water Quality Control Board
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Via Electronic Mail

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RE: Proposed Order NO. R9-2006-0065, NPDES No. CA 0109223
Poseidon Resources Corporation Carlsbad Desalination Project
Flow, Entrainment and Impingement Minimization Plan

Dear Mr. Robertus and Ms. Clemente:

Please accept the following comments on behalf of the Surfrider Foundation and San Diego Coastkeeper (Environmental Groups) pertaining to Poseidon Resources LLC's (Poseidon) proposed Carlsbad Desalination Project (CDP) referenced above.

At the April 8, 2009 hearing, the Regional Board directed staff to prepare responses to comments received and make revisions to the proposed Tentative Order consistent with Board direction. However, the Regional Board did not reach consensus on a variety of issues discussed, and in some instances was silent on key points presented. The Revised Tentative Order, as proposed, is not consistent with the Board's intent as expressed at the hearing.¹ Moreover, the Revised Tentative Order does not meet the requirements set forth in the NDPEs Permit or Porter-Cologne section 13142.5(b).

Procedural Objections

The Regional Board counsel specifically instructed the Board not to act at its April 8th hearing due to procedural irregularities. Due to the systemic informational gaps and last-minute changes throughout the administrative approval process for the CDP, the public once again suffers for Poseidon's gamesmanship. Impingement impacts came to light shortly before the April hearing, leaving Regional Board staff and the public little time to respond to *Poseidon's* calculation error. See Email correspondence between Chiara Clemente and Peter MacLaggan from March 17 to March 30, 2009. As the Flow, Entrainment and Impingement Minimization Plan (Minimization Plan) was due in January 2007, and has yet to be approved as of the most recent hearing on May 9th, Poseidon cannot credibly argue that expediency is an issue. Although Poseidon takes every opportunity to stress the urgency of CDP water production, it is and has been incumbent upon *Poseidon* to provide the necessary information in a timely manner. Unarguably, Poseidon has failed in this regard.

Further, staff's Response to Comments previously received has not yet been released, but is expected after the close of the public hearing and the public comment period for the May 13th hearing. Contrary to public policy, the closure of the comment period before the Response to Comments are produced results in a disservice to the public, staff and to the Regional Board. Rather than a thoughtful response to legitimate concerns, the Regional Board will now have a post-hoc rationalization of its directive, immune from public

¹ Although a second Revised Tentative Order was released on the evening of May 6, 2009, the following comments reflect page numbers in the prior version of the Revised Tentative Order, released on May 1st, 2009. However, the comments contained herein are equally applicable to the latest version of the Revised Tentative Order.

scrutiny. In so far as the public notice for the May 13th hearing limits public comment to “proposed revisions made to the Tentative Order following the April 8, 2009 meeting” and receipt by May 6th, this deprives the public of meaningful participation. Environmental Groups request an opportunity to respond to the forthcoming Response to Comments at the May 13th hearing, and will be providing written comments for the record as well.²

Poseidon’s submission of proposed Findings and Order before the public release of the Regional Board’s Revised Tentative Order or any supportive findings is prejudicial to both the Board and to the public. The Regional Board closed the comment period and is accepting only comments pertaining to the revisions to the Revised Tentative Order, yet Poseidon has preemptively provided detailed and extensive comments in the form of its proposed order and supporting findings. Although this type of procedure is standard practice for Poseidon at every administrative level, it is highly prejudicial and should not be condoned. Staff and the public must now focus their efforts on rebutting Poseidon’s proposals instead of focusing on staff’s independent assessment. Poseidon is the applicant in this process, but it is the Regional Board, with the aid of staff, that should be driving the approval process. Poseidon’s standard practice puts staff and the public on the defensive. Although this procedure results in a “stream-lined” approval with an artfully crafted order and findings supporting Poseidon’s position, it shows a lack of trust in the Regional Board and staff to do their jobs correctly. Poseidon has volunteered to do the Board and staff’s job, and the Regional Board members and the public should be highly suspect of any applicant doing the Board’s work.

Regional Board Directive

As a preliminary matter, the Regional Board itself did not provide a transcript of proceedings, and any reliance on the transcript prepared by Poseidon is a matter of practicality (Preliminary Transcript of Relevant Excerpts of Regional Board’s Deliberation at April 8, 2009 Regional Board Hearing, Prepared by Latham & Watkins LLP From Audio Files, hereinafter “Poseidon Transcript”). However, it appears that much of the Regional Board discussion, Regional Board staff and counsel comments, and public comments relevant to the Regional Board’s deliberation and direction to staff have been selectively omitted from the transcript. Although the record is colored by these selective omissions, Environmental Groups provide the following comments based on an assumption of accuracy in that portion of the transcript Poseidon has chosen to provide.

The Board members who spoke at the April 8th hearing (and whose testimony was transcribed by Poseidon) provided little to no testimony on several topics. Contrary to Poseidon’s position, the Board did not give anything remotely resembling “thorough consideration” to these subjects, and gave virtually no direction to staff. Poseidon Key Points of Poseidon’s Proposed Order and Supplemental Findings, April 30, 2009, p.3. Poseidon’s characterization of the Board’s position is merely an attempt to insulate the project from litigation, and a blatant mischaracterization of the administrative review process. Poseidon should be reprimanded for its continued manipulation of agency approval processes and admonished to more accurately represent Board action in all future submissions.

Further comments on specific issues of concern include the following:

² See 40 C.F.R. §§ 124.17, 124.12.

- 1) The Regional Board did not discount heat treatment impingement data collection.

To the contrary, the Regional Board specifically asked for impingement real-time assessment, which would include heat treatment data. During his public comment, Mr. Garret specifically and repeatedly called for impingement monitoring similar to that conducted in 2004-05 for Encina Power Station (EPS) by Tenera. Poseidon Transcript, p. 15-16. This monitoring, which was the basis of all entrainment and impingement assessments presented by Poseidon, included heat treatment monitoring.

- 2) The Regional Board did not state that 55.4 acres of wetland mitigation for entrainment would be enough to offset impingement losses.

The Board did not decide that Poseidon's MLMP requirement to provide 55.4 acres of mitigation in two phases was a "proper amount of wetlands mitigation acreage" and "the proper amount of wetlands mitigation acreage needed to fully offset projected Project entrainment and impingement losses." Poseidon Key Points of Poseidon's Proposed Order and Supplemental Findings, April 30, 2009, p.1. The Regional Board did not find 55.4 acres sufficient, nor did it find such acreage would **fully** offset impacts. As a practical matter, further impingement monitoring on a real-time basis was required in order to accurately reflect impacts and require mitigation based on such assessment. Had the Regional Board been convinced by Poseidon's expert testimony, it would not have found the need to require real-time assessment.

Poseidon's own transcript shows the Board members were not convinced that enough data existed to conclusively prove the extent of impingement impacts, and therefore required 55.4 acres as floor.

Board Member Destache: Is it important to Staff to see what the long term possibilities of a mitigation is by using this project as a, on a go forward basis to look at what the mitigation of wetlands could produce because in everything that I've heard it's either we don't have enough empirical data or we're just guessing. Poseidon Transcript, p.2 (emphasis added).

Board Member Loveland: I think this gives us an opportunity to go forward and learn. At the same time taking appropriate action that takes into account the best available information that we have right now and develop a program for monitoring of the impingement entrainment losses and the productivity of the mitigation. And make those appropriate changes as circumstances change when and if it becomes a stand-alone operation which everybody seems to agree is headed in that direction. Poseidon Transcript, p. 4 (emphasis added).

Board Member Rayfield: I think at this time to close the public hearing. I think we should move forward on Option No. 3. I would add just a couple of points to the points that you have already made for us. On the staff we accept Option 3. I think the staff should come back to us with some specific measures. The thing I like about Option 3 is that it is performance based or performance standard based. But I think we ought to know what those standards might be and how they might be applied. Poseidon Transcript, p. 5 (emphasis added).

Chair (this actually seems to be Board Member Thompson): OK. So, what Alternative #3 really means, because it doesn't specifically say that, is that there would be additional monitoring required in addition to ensuring we meet the 1,715 requirement. And, on top of the 55 acres that's currently in the plan, we would have to give . . . provide . . . require them to provide an additional 11 to 18 acres, but it doesn't say that. But that is what that means?

Board Member Rayfield: OK. Well, I too thought Option #3 meant that roughly 55 acres in mitigation. And if we were to go with that Option #3, that's where I would start. And that's why I think we want the additional monitors to say, "is that or is that not adequate and should it be adjusted upward or possibly downward?" Poseidon Transcript, p. 10.

Mr. Robertus: Then there's another . . . A question I have is: Does the monitoring that is contemplated as additional monitoring in Option #3 include continued monitoring to measure the actual impingement values in the increase?

Ms. Clemente: Yes. And I would like for it not just to be numbers; but, . . . Yes, the monitoring would be to measure the impingement values and the intake as well as the mitigation . . . not the impingement and mitigation productivity of the mitigation. But, I also want to make sure that it be not just in terms of kilograms but in terms of species and numbers.

Chair: I will clarify with board members what was just said monitoring would include monitoring not just in mitigation production in the wetlands, in the wetlands acreage, but also continuing to monitor to build on the database we are working with now to determine what the acreage should be.

Chair: That's my understanding of it . . . Yeah . . .

Board Member Rayfield: That's . . . that's mine, too. And I have . . . I find myself in agreement with Dr. Jenkins. I don't think the confidence level is very meaningful in this context at all. We just don't know enough. So, I wouldn't . . . personally, I'm not persuaded by 50% or 85% or 95% confidence level. I think we have to mitigate for whatever the effects of the impingement are. And that's why I think it's so important to have the performance measures. Poseidon Transcript, p. 11 (emphasis added).

Board Member Loveland: I think Mr. Rayfield. It's the safest thing . . . is how I feel about what the direction should be. One point of clarification, you talked about, maybe, the decrease is moot because you wouldn't see a decrease. I actually don't think that it is moot because if we're going to do this based on actuals, do the monitoring and make decisions based on what actually happens, if we find out that it is more productive. I'm not holding out a great deal of hope for that, but should it be, then I think there should be a move to release some of that for remedial mitigation perhaps. What if in 20 years from now or 50 years from now the plant wants to increase the [inaudible], then some of that could be remedial mitigation. So, I don't think decreasing is moot . . . and although it's unlikely, I'm not going to. . . Poseidon Transcript, p. 11 (emphasis added).

Mr. Wyels: Yes, thank you. Yes there was also some discussion about. . . there would need to be mitigation monitoring for these impingement impacts, whether its monitoring to determine whether this fixed amount of 1715 kilograms per year is being met or its open-ended that whether more equivalent production. . . equivalent to what's actually being impinged is being achieved. You're right. Poseidon Transcript, p. 15 (emphasis added).

Mr. Wyels: Yes, Mr. Garrett is correct. Catherine informed me that I mis-spoke. What I was really talking about was 55.4 acres Poseidon believes they will achieve this productivity of 1715 within that 55.4 acres, if it turns out that they're incorrect. There would have to be additional

acreage. But if they are correct they would not have to do additional acreage. Poseidon Transcript, p. 16 (emphasis added).

Thus, what can be gleaned from the transcript is that there was Board member uncertainty as to what the actual impingement rate would be, and the Board members thus were inclined to require real-time impingement monitoring. The 55.4 acres of mitigation required for entrainment would be a floor, dependent upon the real-time impingement monitoring results. As detailed further below, in light of the Coastal Commission Executive Director's reiteration that the entire 55.4 acres are allocated to entrainment mitigation, using the same acreage to mitigate for impingement impacts is no longer an option. Coastal Commission Comments to the Regional Board, May 6, 2009, p. 2-4.

3) Temporal losses need to be taken into account.

Because the Revised Tentative Order contemplates impingement monitoring after construction of the CDP, during its first year of operation, temporal losses must be considered. First, after the impingement monitoring data is analyzed and presented to the Board, any discrepancy between the impingement losses attributable to CDP operations and the fish productivity of restored wetlands (to the extent there is any allowable overlap for entrainment and impingement mitigation) will need to be addressed. Further, before the wetlands potentially reach the required productivity to offset impingement mitigation, losses due to impingement and entrainment need to be mitigated through further wetland restoration acreage. The temporal loss accounting requirement is not required in the current order, and should be included therein. The Regional Board testimony provided by Poseidon reflects, at a minimum, the Board considered this something to be vetted by staff or the Science Advisory Panel at the time of MLMP implementation.

Mr. Gonzalez: So, as long as it's clear that if you're doing something like that, that it might mean that you're going to get more acres than the biomass that you're trying to replace because you also have to replace for temporal loss. One of the other things that needs to be certain is in the measurement of productivity of the wetlands in the scenario for the impingement for the impinged fish is staff needs to be certain that they give direction that you can't always just go into a wetland and measure biomass and say here is the productivity because productivity is a snapshot of time. So impingement data is collected as how many fish do you lose per day whereas when you come into a wetland you don't produce a certain amount of fish per day and you produce them based on their life cycles, and there needs to be some mechanism for equating that in this context.

Chair: I think staff would figure it out or our experts would figure it out. Okay. Are we ready to close the hearing. Poseidon Transcript, p. 17 (emphasis added).

Therefore, the Revised Tentative Order should include some provision that either defines a method to account for temporal losses, or assigns this function to the Science Advisory Panel.

4) Biological productivity assessment was to be determined by the Science Advisory Panel.

The Regional Board agreed that assessment of the biological productivity of the wetlands, created as required for entrainment impacts and as a floor for impingement impacts, would be determined by the Science Advisory Panel. Contrary to Poseidon's contentions, the Regional Board did not agree that 55.4 acres "will more than fully offset potential stand-alone impingement." Poseidon Key Points of Poseidon's Proposed Order and Supplemental Findings, April 30, 2009, p.2. Nor did the Regional

Board direct staff to write a Revised Tentative Order requiring calculations of wetland productivity that specifically contemplated Poseidon's proposed calculation method. The testimony reflects the Regional Board's understanding that this would be determined by the Science Advisory Panel.

Chair: . . . Mr. Loveland's comment about . . . it had to do with the variety of species, monitoring for species and varieties...

Ms. Clemente: With regards to that last comment; there's a hundred (100) different species from day to day. We just want them to monitor it, not...we're not asking them to match every species in terms of mitigation. But, we're asking them to collect the data in terms of numbers, species, age, etc., so we can make an educated comparison of the two. Otherwise, we've just got a bucket of fish.

Board Member Loveland: I would agree. Do you have some sense of what the criteria for making an evaluation would be?

Ms. Clemente: Actually, that's what the Scientific Advisory Panel is for. That is part of the marine life . . . MLMP is their panel of experts that can provide much more of an educated opinion than I would. Poseidon Transcript, p. 12 (emphasis added).

Impingement Monitoring – Heat Treatments and Effect

As mentioned above, the limited transcript provides no evidence that the Regional Board intended any impingement monitoring to exclude heat treatments. In light of the seemingly perpetual co-located operation due to the strictly worded stand-alone trigger, EPS is likely to continue operations at minimum flow rates, while CDP becomes the almost exclusive driver of operations. It would be illogical and contrary to the mandates of Porter-Cologne to minimize mortality to attribute **none** of these heat treatment impacts to CDP operations. Revised Tentative Order, p. 11.

Though Poseidon argues that it would be more appropriate to obtain heat treatment data from EPS, this argument is wholly without merit. The impingement data relied upon by the Regional Board *and by Poseidon* was conducted based on EPS operations. The intake and discharge are operated by EPS. The pumps are owned and operated by EPS. Using Poseidon's logic, no entrainment or impingement should ever be attributed to Poseidon as long as EPS owns the intake and discharge channels and the intake pumps. However, the Regional Board, along with the Coastal Commission and State Lands Commission, has rejected such a notion. When CDP flows are the driving force, the impacts are attributable to CDP, not EPS. Thus, heat treatments conducted by EPS *for the benefit of CDP* would also be attributable to CDP. As mentioned previously by Environmental Groups and staff, CDP operations will necessarily contribute to increased frequency and impacts of heat treatments. See Carlsbad Desalination Project, Environmental Groups' Supplemental Comments, April 6, 2009, p. 10-11.

Further, in light of the proposed stand-alone and new design or technology triggers proposed, the heat treatment impingement impacts will continue regardless of EPS flow rate so long as EPS is subject to Reliably Must Run (RMR) status by Cal-ISO. Thus, even operating at 304 MGD with 99.99% of impacts attributable to CDP, Poseidon will never have to mitigate for heat treatments until EPS shuts down completely.

Impingement Mitigation

The Regional Board cannot refuse to make a decision as to the significance of the CDP marine life impacts, especially under the Porter-Cologne mandate to *minimize* intake and mortality. Without actually requiring the best design, site, or technology to minimize intake and mortality, the Regional Board has chosen to rely wholly upon mitigation measures. This in and of itself is problematic and does not comport with Porter-Cologne. A refusal to acknowledge reality and require accurate mitigation for CDP impacts is completely inadequate.

The Regional Board, finding it “unnecessary to resolve” disputes of whether impingement rates of 1.56kg/day to 7.16kg/day are more accurate because 4.7kg/day is “a reasonable, conservative estimate of impingement” is nonsensical. Revised Tentative Order, p. 10. First, the Regional Board inherently makes a decision as to the reasonableness of the impingement rates by using a middle-of-the-road number of 4.7kg/day. The Regional Board could find 4.7 kg/day supportable in light of the range of numbers provided, or 4.7 kg/day as a good compromise position because both the low and high end of the range are equally likely. However, merely stating that the Regional Board has found 4.7 kg/day reasonable without stating *why*, in light of an unresolved dispute between staff, Environmental Groups, and Poseidon, provides no insight into the Regional Board’s decision-making process.

Second, the Regional Board, by basing the wetland productivity requirement on the 4.7 kg/day presumed impingement impacts proves that determining impingement impacts **is of the utmost importance**. As written, the Regional Board’s basis for impingement mitigation calculations in the order is the assumption that a productivity of 1,715.5 kg/year will offset impingement impacts. This 1,715.5 kg/year productivity is “derived from the estimate of 4.7 kg/day” of impacts. Revised Tentative Order, p. 10. Thus, if the Regional Board truly found it unnecessary to resolve the dispute over what the CDP impingement rate is, there would be *no numerical value whatsoever* assigned to such impact.

Further, the Regional Board directed staff to require, and has required through the Revised Tentative Order, impingement monitoring once CDP operations begin. Revised Tentative Order, p. 11. Contrary to the language currently contained in the order, this monitoring of impingement impacts is not merely of passing interest as something “valuable to consider.” *Id.* The order also allows the Regional Board to require an adjustment of the annual fish productivity requirement of 1,715 kg/year dependent on these impingement monitoring results. Thus, 1,715 kg/year is established as the benchmark from which productivity, and by implication mitigation, is increased or decreased. If the impingement monitoring results show an increased productivity, Poseidon will likely ask for mitigation credit. Phase I of the MLMP requires only 37 acres of mitigation, with an additional 18.4 acres conditionally required in Phase II. Revised Tentative Order, p. 9. Thus, if Poseidon meets productivity benchmarks imposed in the Revised Tentative Order (i.e. 1,715 kg/year) and the real-time impingement monitoring shows impacts less than 4.7 kg/day, Poseidon may potentially receive credit towards the required entrainment mitigation, resulting in less than 55.4 acres of total mitigation. Thus, the 4.7 kg/day impingement calculation is truly important, as it impacts the amount of mitigation required above and beyond 55.4 acres, and it also provides a mitigation banking mechanism **where none existed before**, and more importantly, **was never intended** as described in more detail below. As the Coastal Commission has reiterated, the CDP’s impingement impacts have only recently come to light, and the mitigation imposed by the Coastal Commission in the MLMP was for entrainment impacts. Coastal Commission Comments to the Regional Board, May 6, 2009, p. 2-4. **At most**, Poseidon could receive credit for impingement of .96kg/day. *Id.* at 4.

In light of the Regional Board's requirement of real-time impingement monitoring, it is unsupportable to include in the Revised Tentative Order an arbitrary benchmark, that only serves to benefit Poseidon. A year-long data set of impingement impacts resulting from CDP operations, including heat treatments, would be the best evidence of the CDP's intake and the resulting mortality. Any impingement mitigation requirement based on this calculation would be the most defensible and scientifically supportable.

Biological Performance Standard

The biological performance standard productivity requirement of 1,715 kg/year for impingement compensation, and the available fish biomass calculations are unsupported by the record, lack scientific basis, and should be decided by the Science Advisory Panel. Revised Tentative Order, p. 14. As pointed out by the Coastal Commission, the monitoring of wetland mitigation is required to take the form of "fish productivity, which requires a substantially more involved and complex approach than monitoring for biomass." *Id.* at 4. Moreover, the "Science Advisory Panel has already developed rigorous monitoring methodologies that are completely consistent with scientific literature..." *Id.* Poseidon's attempt to circumvent this process during Regional Board review is contrary to the Regional Board directive and to the Coastal Commission's requirements in the MLMP.

Further, though biomass calculations are wholly inappropriate for determining fish productivity and should not be applied in the manner suggested by Poseidon, the calculation methods themselves are completely unfounded. Revised Tentative Order, p. 14. First, the premise for the calculations themselves is the ability to create wetland mitigation for entrainment and impingement impacts within the same acreage. This matter was not resolved by the Regional Board at its April hearing, nor was the Regional Board clear as to how any such assessment would be made. See, Statement from Peter Raimondi, Ph.D, April 1, 2009 ; Carlsbad Desalination Project, Environmental Groups' Supplemental Comments, April 6, 2009, p. 11-13; Coastal Commission Comments to the Regional Board, May 6, 2009, p. 2-4. Importantly, the Coastal Commission has since *expressly rejected* Poseidon's assertion that the entrainment mitigation can also be used as impingement mitigation.

However, the MLMP approved by the Commission does not include "excess" production and does not provide for "crediting" mitigation towards an impact that the Commission was not informed about and that was not included in its deliberations. The Commission's review focused on determining how large an area would be needed to provide sufficient habitat for producing the larvae lost to entrainment.

Coastal Commission Comments to the Regional Board, May 6, 2009, p. 3. The Coastal Commission, at most, accounted for .96 kg/day of impingement in mitigation calculations. *Id.*

Second, the assumption that entrainment mitigation is only for the three most commonly entrained species was not accepted by the Regional Board. The position that these three species are merely a proxy for all entrainment impacts is supported by Dr. Raimondi (who was also the expert involved in the Coastal Commission review process), by Regional Board staff, by contemporary scientific literature and research, and by Environmental Groups. See Carlsbad Desalination Project, Environmental Groups' Supplemental Comments, April 6, 2009 and Appendix. Thus, a calculation based on the assumption that all species other than the most commonly entrained goby, blenny and garibaldi are "excess production" would be inaccurate. Moreover, even if the calculation allowed for inclusion of species biomass only excepting the three most commonly entrained fish, it would not support Poseidon's proposed calculation. Not only is a biomass calculation of "all other species" overly inclusive, no basis

exists to support the proposition that all other biomass can be attributable to *impingement* mitigation. Even using Poseidon's logic only impinged organisms could be counted toward these impingement productivity calculations.

However, as mentioned repeatedly, the house of cards upon which Poseidon has built its mitigation structure topples when any of the foundational elements are removed:

- 1) Entrainment mitigation required in the MLMP by Coastal Commission was for entrainment impacts. At most, the Coastal Commission considered .96 kg/day impingement.
- 2) Impingement impacts at the Coastal Commission were based on a premise of .5fps velocity, now proven to be inaccurate.
- 3) Poseidon's impingement calculations were inaccurate, as revealed by staff shortly before the April 2009 hearing. Real-time impingement impacts are the best basis for assessing CDP impingement impacts. Any mitigation required to offset these impacts must be additional, over and above the 55.4 acres required for entrainment impacts.
- 4) Heat treatments conducted during co-located operations are for the benefit of CDP when the driving factor for intake is CDP, and must therefore be considered in impingement monitoring and mitigation requirements.
- 5) Biological productivity of wetland mitigation is not equal to biomass, and is meant to be determined by a Science Advisory Panel, as reiterated by the Coastal Commission.

Disagreement Between Administrative Agencies

The Coastal Commission has repeatedly spoken to the inconsistencies between the proposed mitigation measures in the Revised Tentative Order and those adopted by the Coastal Commission in the MLMP. Comments by the California Coastal Commission, April 6, 2009; Coastal Commission Comments to the Regional Board, May 6, 2009. At its April 9, 2008 hearing, the Regional Board specifically directed staff to work with other agencies in coordination, in order to comply with Section 13225 of the California Water Code. Resolution No. R9-2008-0039, p.3. Not only would adoption of the Revised Tentative Order be contrary to this directive, it would frustrate the Coastal Commission's requirements. Poseidon would potentially be unable to meet its MLMP performance standards as mandated by the Coastal Commission. Coastal Commission Comments to the Regional Board, May 6, 2009, p.4-5.

Trigger for Stand-Alone Analysis

Though the Regional Board specifically asked for a trigger that would mandate stand-alone analysis, the Board members did not give direction as to how stand-alone operations would be identified. The proposed trigger for a new Report of Waste Discharge is EPS permanent shutdown of all generating units. Revised Tentative Order, p. 2. This trigger does not take into account the reality of EPS current and future operations. Though EPS is shutting down three of its five generating units, it already operates at a reduced capacity compared to historical operations, and specifically those in 2006 at the time of permit issuance. Once three of the five units are shut-down, EPS flows will be further reduced. Under the current scenario, even if EPS flows are limited to the service pumps, or even to 1 MGD, the

CDP will not be considered a stand-alone facility. This creates a long-term scenario in which CDP is a stand-alone facility in all but name, which not only incentivizes perpetual EPS operation, but allows CDP to evade stand-alone Porter-Cologne section 13412.5 review.

The trigger for design or technology feature implementation to reduce intake and mortality is similarly flawed. Only after EPS gives notice that it will not be operational for 180 days and will not be called upon by Cal-ISO for power production will Poseidon have to evaluate possible design or technology measures. Revised Tentative Order, p. 2. The Revised Tentative Order requires submission of a technical report "evaluating the feasibility of any additional design or technology features within 45 days" of notification of EPS shutdown. *Id.*

The technical report shall include a detailed description of any feasible design or technology measures, in addition to those identified in the [Minimization Plan] for temporary shut down that Poseidon will use to minimize the intake and mortality of all forms of marine life while EPS is in a period of prolonged temporary shutdown.

Revised Tentative Order, p. 17. Technology and design features that would reduce intake and mortality during temporary periods of EPS shutdown become no more likely at the point of 180 days of shutdown than at one day of reduced operation. *Id.* The proper time for technology and design feature planning was at the time of the NPDES permit issuance, or within the 180 day timeline articulated in section VI.C.2.(e).

The first alarming element of this provision is the requirement of notice that EPS will be shut down for 180 days before a technical report is even required. EPS must first have the foresight to know when it will be shutdown for 180 days, and must simultaneously notify CDP (which is not required anywhere in either the CDP or EPS permits). Then Poseidon has 45 days to develop a plan for technology or design measures to minimize intake and mortality. This plan is subject to Executive Officer review, and is not subject to Regional Board approval or public review. This entire provision amounts to a circumvention of Porter-Cologne and the NPDES Permit section VI.C.2.(e). Not only are these the very measures required by Porter-Cologne at the time of project approval, but they were required under VI.C.2(e). Absolutely no basis exists for allowing Poseidon to formulate design or technology measures subsequent to construction of CDP, and without public review or Regional Board approval. Moreover, the imposition of only design or technology measures does not meet the section 13142.5(b) mandate that "best available site, design, technology, and mitigation measures feasible shall be used to minimize the intake and mortality of all forms of marine life." Porter-Cologne § 13142.5(b).

Another fatal flaw of the proposed requirement is the assertion that any feasible design or technology measures are identified in the Minimization Plan. The Revised Tentative Order asserts that CDP has little control over co-location operation and therefore the existing intake meets the best available design criteria. Revised Tentative Order, p. 7. **Thus, no design measures are required.** The only measures mentioned in the order are modified EPS pump configuration to reduce inlet and fine screen velocity and ambient temperature processing. *Id.* However, with little to no explanation, these measures are predetermined likely to be successful.

While the percentage of time EPS is temporarily shut down has not been predicted and the Discharger has not quantified the expected reduction in impingement and entrainment during operation under these conditions, it is reasonable to conclude that

reductions in impingement and entrainment will occur when CDP implements these features.

Id. With no information or quantification, it is **unreasonable** to assume any reductions in mortality will result. Moreover, the Coastal Commission has provided evidence that Poseidon has misrepresented intake velocities and that under all operating scenarios (with or without EPS operation) the intake **velocities will always exceed the .5 fps required as best technology by EPA**. Coastal Commission Comments to the Regional Board, May 6, 2009, p.2 and Attachment 1.

Similarly, the Revised Tentative Order states that the proposed technology for the CDP is the best available technology feasible under co-location operation. Revised Tentative Order, p. 8. The alternative intakes and screening technologies were all discounted as infeasible. Specifically, the alternative screening technologies would interfere with EPS operations. *Id.* Why EPS operations are relevant in light of the requirement that EPS be shut down for 180 days before any co-located technology requirement *can even be analyzed (much less imposed)* is puzzling. Further, if Poseidon is able to discount certain technologies because of their interference with EPS operations, it would make sense to specifically require those technologies when EPS shuts down for 180 days.

Regardless of the unexplained reason for imposition of this trigger, it does not meet section VI.2.C.(e) requirements to require minimization of intake when EPS flows are insufficient to meet CDP needs, as explained below.

NPDES Permit and Porter-Cologne Section 13142.5 Compliance

The Regional Board cannot adopt the Revised Tentative Order as proposed to meet the section VI.C.2.(e) requirement of Poseidon's NPDES Permit, Order No. R9-2006-0065. The NPDES Permit was reopened only to assess compliance with this provision.

The Discharger shall submit a Flow, Entrainment and Impingement Minimization Plan within 180 days of adoption of the Order. The plan shall assess the feasibility of site specific plans, procedures, and practices to be implemented and/or mitigation measures to minimize the impacts to marine organisms when the CDP intake requirements exceed the volume of water being discharged by the EPS. The plan shall be subject to the approval of the Regional Water Board and shall be modified as directed by the Regional Water Board.

Order No. R9-2006-0065, NPDES No. CA0109223, p. 22 (emphasis added). The basic premise of the condition in section VI.C.2.(e) is a Porter-Cologne analysis for CDP operations when CDP is the driving factor for EPS intake. Because Poseidon's Minimization Plan was originally due in January 2007, Poseidon has had more than enough time to evaluate the necessary elements of section 13142.5(b). However, in an effort to hurriedly approve the Minimization Plan, the Revised Tentative Order now contains a provision requiring design or technology requirements after CDP is built, upon notice of 180 days of EPS shutdown, subject only to Executive Officer review. Revised Tentative Order, p. 2.

As discussed above, the trigger for design or technology measures is inadequate. However, it also fails to meet the Permit section VI.C.2.(e) requirement for requiring assessment of measures to minimize mortality "when the CDP intake requirements exceed the volume of water being discharged by the EPS." Order No. R9-2006-0065, NPDES No. CA0109223, p. 22. The order requires, as does Porter-

Cologne, measures to reduce intake and mortality when EPS flows fall below 304 MGD (or would do so but for CDP). Thus, requiring a *6-month shutdown of EPS* before design or technology measures are put in place (or even studied) does not meet the section VI.C.2.(e) or section 13142.5(b) requirements.

Throughout the approval process, the Regional Board has also made clear and expressed in no uncertain terms that the approval of the Minimization Plan is for co-located operations only.

- 1) The Plan, including any amendments subsequently approved by the Regional Board, is of limited duration and is applicable only to Poseidon's current cooperative operation with EPS. Upon Poseidon's proposal to operate CDP independent of EPS or when EPS permanently ceases power generation operations, it may be necessary to further evaluate appropriate mitigation and/or minimization of impacts to marine organisms of CDP's operations. Resolution No. R9-2008-0039, April 9, 2008, p. 2.
- 2) Poseidon's Plan, including any amendments that are subsequently approved by the Regional Board, are of limited duration and are applicable only to CDP's current cooperative operation with EPS. When Poseidon proposes to operate independent of EPS or EPS permanently ceases power generation operations, EPS's cessation of power generation operations, would be necessary to further evaluate appropriate mitigation and/or minimization of impacts to marine organisms of CDP's operations. Resolution No. R9-2008-0039, April 9, 2008, p. 3.
- 3) This Provision was included in Order No. R9-2006-065 to ensure Poseidon Resources Corporation applies the best available site, design, technology, and mitigation measures that are feasible to minimize the intake and mortality of all forms of marine life during periods when the Desalination Plant requires more seawater than is needed by the Encina Power Generation Station. Provision VI.C.2.e is consistent with California Water Code Section 13142.5(b). Public Notice of Availability Flow, Entrainment And Impingement Minimization Plan Poseidon Resources Corporation Carlsbad Desalination Project, February 21, 2007, p. 1.
- 4) Poseidon's Plan, including any amendments that are subsequently approved by the Regional Board, are of limited duration and are applicable only to CDP's current cooperative operation with EPS. When Poseidon proposes to operate independent of EPS or EPS permanently ceases power generation operations, EPS's cessation of power generation operations, would be necessary to further evaluate appropriate mitigation and/or minimization of impacts to marine organisms of CDP's operations. Supplemental Executive Officer Summary Report, April 9, 2008, p. 2.
- 5) If EPS permanently ceases operations and the Discharger proposes to independently operate the existing EPS seawater intake and outfall for the benefit of the CDP ("stand-alone operation"), it will be necessary to evaluate whether, under those conditions, the CDP complies with the requirements of Water Code section 13142.5(b). Additional review will be necessary in part because under stand-alone operations, the Discharger will have more flexibility in how it operates the intake structure and outfall and additional and/or better design and technology features may be feasible. Tentative Order No. R9-2009-0038, March 13, 2009, p. 2.

Approval of the Minimization Plan, and Porter-Cologne compliance is valid only until EPS shuts down. At that point, a new and thorough section 13142.5(b) analysis will be required. Although the Revised

Tentative Order provides a mechanism for additional technology or design review upon EPS shutdown, this is not consistent with the Regional Board and *Poseidon's* previous position.

While EPS is operating, it is expected to supply the majority of the water needed to support desalination operations. As explained in staff's March 27, 2009 staff report, even though the Minimization Plan in many places discusses stand-alone operations, the Regional Board will reconsider whether the Project satisfies Section 13142.5(b) should EPS cease to operate. At this juncture, then, the Regional Board only need consider whether the Minimization Plan assures the Project will comply with Section 13142.5(b) when EPS provides insufficient water supply for the Project while operating in co-located mode.

Latham and Watkins Comment Letter, April 2, 2009, p. 12. Because the Regional Board repeatedly asserted that CDP stand-alone operations would be subject to new Porter-Cologne analysis, changing this mandate at the last minute, after the close of the comment period, with no explanation, is unsupportable.

Further, as discussed at length in our previous comment letter, in light of the impending EPS shutdown and regulatory shift in phasing out once-through cooling power plants, compliance with section 13142.5 requires a broader site alternatives analysis than for a co-located CDP. Carlsbad Desalination Project, Environmental Groups' Supplemental Comments, April 6, 2009, p. 5-7, 13-16. This is especially true for a stand-alone CDP, where *all* intake and mortality will be attributable to CDP and Poseidon will have to meet all the elements of section 13142.5(b) independently.

The Revised Tentative Order thus should require not only a design and technology review under section 13142.5 upon EPS shutdown, but must also clarify that Porter-Cologne section 13142.5(b) requires consideration of all its elements: the best site, design, technology, *and* mitigation measures.

Conclusion

The Revised Tentative Order does not accurately reflect the Regional Board's directive given at the April 8th hearing, nor does it satisfy the NPDES Permit condition or Porter-Cologne section 13142.5(b). Without the requested revisions and clarifications, the Regional Board cannot move forward with approval of the Minimization Plan or adoption of the Revised Tentative Order.

Thank you for your careful consideration of these comments.

Sincerely,

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