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August 15, 2014 Via Email to: commentletters@waterboards.ca.gov

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

Dear Ms. Townsend,

Subject: Comment Letter – Desalination Amendments

Thank you for the opportunity to provide comments on the Proposed Amendments to the California Ocean Plan for Desalination Facility Intakes and Brine Discharges.

The Municipal Water District of Orange County (MWDOC) is a member agency of Metropolitan Water District of Southern California (MET) and wholesales imported water to 28 member agencies in Orange County. MWDOC provides multiple regional services, including water use efficiency, water reliability planning, emergency response planning and coordination, and helps to facilitate the development of regional and sub-regional water supply projects.

Since 2004, MWDOC with five participating agencies led the development of the Doheny Ocean Desalination Project, which included construction and testing of the first full scale slant beach well for drawing in ocean water. This method completely avoids impingement and entrainment of marine organisms. Project reports are available on our website and have been previously provided to SWRCB staff.

We are also working with OCWD and our member agencies in the continuing evaluation of the Poseidon Resources proposed Huntington Beach Ocean Desalination Project.

Together with CalDesal, other Ocean Desalination agencies, and with our participating agencies, we have prepared comments on the subject proposed amendment to the Ocean Plan that we consider important to the improvement of the overall objectives of the proposed amendments. We have participated in prior Board workshops and meetings and will continue to offer assistance and our knowledge in helping to develop balanced and effective regulations that achieve the co-equal goals of water quality protection and water supply. SWRCB staff are to be commended in preparing an excellent draft. Our comments are attached.

Sincerely,

Richard B. Bell, PE
Manager, Water Resources and Facility Planning

Attachment

Municipal Water District of Orange County

Comments on

SWRCB July 3, 2014 Draft Amendment to the Water Quality Control Plan for Ocean Waters of California - Desalination Facility Intakes and Brine Discharges

The proposed regulations provide necessary regulatory and project development flexibility, are well written and clear, and very thorough. However, we see areas where improvement should be made to make the draft regulations more effective and to clean up areas where oversights or inconsistencies exist, and where interpretation could lead to unintended constraints. Following are our main comments where the regulations need to be revised.

1. **Clean Up Inconsistent Language**

   Section 13142.5(b) application to intake and brine disposal should be made consistent throughout the document. The terminology, "Best available site, design, technology and mitigation feasible..." needs to be consistently used throughout the document. For example, Page 2 c. and Page 2 2. – "Best available" needs to be inserted before site, and "feasible" inserted after Measures. There are other places in the document where similar abbreviated versions are used and these should be all made the same per 13142.5(b).

2. **Page 2 2.a.(1) – Clarification of owner or operator responsibility in project development and design for satisfaction of the requirement "...best available site, design, technology and mitigation measures feasible shall be used to minimize intake and mortality of all forms of marine life..."**

   Water supply agencies are responsible for developing their projects and have the capability to manage, design, construct and operate/maintain desalination facilities. The responsibility of the Regional Water Boards is to make a determination that Section 13142.5(b) is met by the applicants proposed project. For this reason, we recommend that the second sentence in the first paragraph on Page 2 under item 2.a.(1) be changed to read:

   > "This request shall include sufficient information <u>that demonstrates that the project provides the best available site, design, technology and mitigation measures feasible which shall be used to minimize the intake and mortality of all forms of marine life in its request for a Water Code section 13142.5(b) determination to</u> ~~for~~ the regional water board to conduct the analyses described below."

3. **Need for Ocean Desalination and consistency with regional planning documents.**

Page 4. 2.b.(1) Site – This section, under determination of the best available site, brings into the Ocean Plan the determination whether the proposed ocean desalination facility is needed and whether the proposed project is consistent with an integrated regional water management plan or an urban water management plan and County or City general plans regarding growth.

This determination is beyond the scope of the statutory requirement under Section 13142.5 and is not part of the determination of the best available site. We don't see a need for this in the Ocean Plan. Water supply agencies are responsible for determining the need for local resource developments, not the SWRCB or RWQCB's, and these projects would be incorporated in their plans. It should be noted that water agencies develop Water Master Plans, Water Resource Plans, Water Reliability Plans, and Facility Plans which are relied upon for project development decisions. We are recommending that this provision be deleted since it is not a specified part of a Water Quality Control Plan and is not relevant to the regulation of intakes and brine disposal.

4. **Section 13142.5(b) Site**

Page 4. 2.b.(2) – Change "avoid" to "minimize" to be consistent with Section 13142.5(b).
Page 4. 2.b.(6) – Change the second sentence to read as follows and delete the third sentence:

> "Discharges shall be sited at a sufficient distance from a MPA or SWQPA based on dispersion modeling so that there are no significant impacts from the discharge on a MPA or SWQPA ~~and so~~ such that the salinity within the boundaries of a MPA or SWQPA does not exceed the lowest observable effect level for the most sensitive species in the the MPA above the natural ~~background~~ salinity. ~~To the extent feasible, intakes shall be sited so as to maximize the distance from a MPA or SWQPA.~~"

Assuring a "no impact' standard is impossible to comply with as it is possible that some slight increase in salinity from the discharge could reach an MPA or SWQPA under unusual ocean conditions. Since there is natural variation in ocean salinity, it would be difficult to comply with an average condition and this should be changed to not exceeding the natural salinity that would occur at any time. Maximizing the distance from an MPA or SWQPA is limitless, sets no feasible boundary, is a subjective consideration, and could lead to excessive costs to public agencies without any added protective benefit to marine organisms in the MPA or SWQPA. Determination of a reasonable or sufficient distance to be fully protective of the MPA and SWQPA should be determined by the Regional Board with dispersion modeling information provided by the project proponent.

5. **Determination that Subsurface Intakes are infeasible by the Regional Board.**

Page 6, Section 2d(1)(a)(i) allows the Regional Board to make a determination that subsurface intakes are infeasible based on their analysis of specified criteria, including "presence of sensitive habitats, presence of sensitive species, energy use, impact to freshwater aquifers, local water supply, and existing water users..." This section should allow mitigation of impacts and not be solely used by the Regional Board to determine that a subsurface intake is infeasible due to a finding of the presence of any of these criteria. The following language should be added: "Project mitigation measures and monitoring programs that would minimize impacts to coastal resources shall be considered by the Regional Water Board in such determinations."

6. **As proposed, potential for recycling would prohibit co-disposal of brine with municipal wastewater.**

Page 7, Section 2d(2)(a) states that the preferred technology for minimizing mortality of marine life resulting from brine disposal is to "...commingle brine with wastewater...**unless the wastewater is of suitable quality and quantity to support domestic or irrigation uses**". We believe this phrase could be misconstrued and could be interpreted to prohibit co-disposal of brine with municipal wastewater if the Regional Board determines that the wastewater is of suitable quality and quantity for future recycling. Water supply agencies are responsible for development of water supply and reliability projects, and would always seek the least cost project that meets the water agencies supply objectives. If a future recycling project is planned, then the wastewater and water agency would determine if sufficient wastewater flows would remain that would be adequate for dilution of the brine or the agency would plan a new brine disposal system. It would be best to delete this phrase and replace it with language that would note something along the lines: "nothing in this section shall prohibit the future recycling of wastewater".

We recommended that paragraph 2d(2)(a) on page 7 of the consolidated Draft Regulations be changed to read as follows:

> "The preferred technology for minimizing intake and mortality of marine life resulting from brine disposal is to commingle brine with wastewater (e.g., agricultural, sewage, industrial, power plant, cooling water, etc.) that would otherwise be discharged to the ocean~~, unless the wastewater is of suitable quality and quantity to support domestic or irrigation uses.~~ For commingled brine and wastewater discharges, when the combined TDS is near ambient ocean salinity sub-section 2.(c) shall not apply. Nothing in this section shall preclude the future recycling of wastewater."

7. **Page 9 e. Mitigation: Add the following language to the end of the paragraph:**

   ...The owner or operator shall fully mitigate for ~~all~~ marine life mortality associated with the desalination facility. "This provision shall not apply to brine disposal by commingling with wastewater."

8. **Requirement for mitigating shearing stress induced mortality and any increase in mortality resulting from a commingled discharge entrainment impact in the Brine Mixing Zone (BMZ).**

   Page 10 - 2. e.(1)(b) - Existing wastewater agencies are not required to mitigate for the very small entrainment, shearing, or commingling losses that might occur from wastewater disposal within the zone of initial dilution. The SWRCB Expert Panel indicated that the mortality from shearing losses is likely quite small from high pressure jets and would be non-existent in low pressure wastewater outfall diffusers. The Expert Panel also recommended that the toxicity and other requirements of the Ocean Plan should be met at the edge of the brine mixing zone, not someplace inside of the mixing zone. The purpose of the mixing zone is to allow a small area for initial dilution of the brine or commingled wastewater plume. Add the following language to the end of Section (b) on page 10:

   "This section does not apply to commingled brine discharges with wastewater."

9. **Page 13 Receiving Water Limitation for Salinity - Compliance with "Natural Background Salinity" as worded is non-attainable.**

   Under Receiving Water Limitations for Salinity, the "natural background salinity" is to be used. The definition provided for "natural background salinity" is a 20 year average or a site specific average based on new data collected at the discharge point on a weekly basis over 3 years. Using long term averages would make it impossible to comply with the allowable 2,000 mg/l maximum incremental increase above ambient or reference salinity when natural salinity levels exceed their average condition. Instead, a reference, moving average background salinity for the site would be a better approach. We would recommend using a 12 month moving average of monthly salinity. More frequent sampling than monthly sampling would not add sufficiently to the accuracy of determining the moving mean for establishing the reference salinity. A moving mean is a better measure as sometimes errors in sampling and analysis can occur.

10. **Page 14 - Receiving Water Limitation for Salinity, the Alternate Method should allow use of site specific most sensitive species that are found in the impacted habitat.**

    To provide for appropriate flexibility without causing any additional impact, site specific habitat species that occur and would be affected by the discharge should be used in the determination of the appropriate receiving water limitation for salinity. For example, it makes no sense to use

rocky habitat species in sandy or muddy bottom habitats and vice versa. It would seem better to use the most sensitive species that have developed protocols for the impacted habitat.

11. **Page 16 - Definition of BMZ should be specified that it is for dedicated brine disposal discharge lines equipped with multiport diffusers and that it does not apply to conventional wastewater outfalls that may be used for commingling brine for disposal. Further, the BMZ definition should be consistent with the mitigation requirements in the draft amendment and as now written would inadvertently prohibit brine disposal.**

As currently defined, acutely toxic conditions are to be prevented in the BMZ. Whether brine discharge is considered acutely toxic depends on how dilution is factored in. If dilution is not factored in, it would be impossible to prevent acutely toxic conditions. When brine firsts enters the ocean from the diffuser it is about twice the concentration of seawater undergoing dilution in the BMZ and would be acutely toxic. The very purpose of the BMZ is for dilution of the brine to prevent acute and chronic toxicity from concentrated seawater at the edge of the BMZ. Acute toxicity should be met at the edge of the BMZ as recommended by the Expert Panel (September 23, 2013 workshop presentation and March 2012 Expert Panel Final Report). Granite Canyon Lab work provided chronic toxicity evaluations for brine but not for acute toxicity. It is not possible at this time to know if some distance within the BMZ could be established for acute toxicity as is now provided in NPDES permits for wastewater outfalls for constituents other than salinity.

We recommend that under the definition for BMZ on page 16, that the third sentence of the definition be changed to read as follows:

> "The brine mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely <u>and chronic</u> toxic conditions due to elevated salinity are prevented <u>at the edge of the brine mixing zone</u> and the designated use of the <u>ocean</u> water <u>beyond the brine mixing zone</u> is not impaired as a result of the brine <u>discharge</u> ~~mixing zone~~. This section shall not apply to commingled discharges through existing wastewater outfalls that fall under existing NPDES permits.

12. **Page 17 – Add Definition of "Feasible".**

Section 13142.5(b) utilizes the term "feasible". It is important that this term be defined and be consistently utilized. It should be noted that in the recent Court of Appeals Decision in *Surfrider Foundation v. Cal. Regional Water Quality Control Board* upheld the use of the definition of "feasible" under CEQA. Under CEQA, "feasible" means "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors". The Coastal Act relies on the same definition. For consistency, the SWRCB should incorporate this same definition and include it under Definitions.