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BRIEFER

CALIFORNIA OCEAN PLAN AMENDMENT ON DESALINATION

Coverage & Definitions

- **Effective Date.** The Desalination Ocean Plan Amendment (OPA) was adopted by the State Water Board on May 6th, 2015. The OPA will become effective once the Office of Administrative Law approves the final version, which is expected in the fall of 2015.
- **Exemptions.** The Intake Section of the OPA does not apply to federally operated facilities. The State Water Board may exempt a project from the OPA if it is operating as a critical short term water supply due to a state of emergency.
- **Existing Facilities.** Facilities that have been issued an NPDES permit and have obtained all building permits and other governmental approvals necessary to commence construction, and have commenced construction of the facility beyond site grading prior to OPA adoption. “Existing facilities” are not required to comply with the OPA Intake Section requirements, but are required to meet the Discharge and Salinity requirements.
- **Expanded Facilities.** Projects that either (1) increase the amount of seawater intake; or (2) change the design or operation of the facility. Any facility co-located with an OTC facility is an expanded facility required to comply with the OPA after the OTC reduces its water intake. Any new or expanded facility has to comply with the full OPA.
- **13142.5(b) Analysis.** A Regional Water Board shall first analyze individually the best available site, design, technology, and mitigation measures for minimizing intake and mortality of all forms of marine life. The Board will then consider all factors collectively to determine the best combination to minimize marine life mortality.

Best Available Technology

- **Subsurface Feasibility.** Subsurface intakes are required unless a Regional Water Board determines their use is infeasible after a comparative analysis of:
 - (1) Geotechnical data, hydrology, benthic topography, oceanographic conditions;
 - (2) The presence of sensitive habitats or species;
 - (3) Energy use for the entire facility;
 - (4) Engineering constraints; and
 - (5) Project life cycle costs.
- **Project Life Cycle Costs** shall be evaluated by considering the total cost of planning, design, land acquisition, construction, operations, maintenance, and maintenance of the lifetime of the facility.
- **Economic Infeasibility.** Subsurface intakes are not deemed “economically infeasible” if they are merely more expensive than open ocean intakes. The project proponent must demonstrate that subsurface intakes are economically infeasible because additional costs or lost profitability would render the facility not economically viable.
- **Open-Ocean Intakes.** If subsurface intakes are infeasible, projects will be required to install a 1mm slot screen on open ocean intakes. The velocity of an open-ocean intake cannot exceed .5 feet per second. Project proponents may use an alternative intake method, only after demonstrating an equivalent reduction in marine life mortality as compared to a 1mm screen.

Best Available Site

- **Alternatives Sites** - The Regional Water Board is required to evaluate a reasonable range of nearby sites that would likely support subsurface intakes.
- **Sensitive Habitats.** The Best Available Site must avoid impacts to sensitive habitats and sensitive species.

- **Marine Protected Areas.** A facility's intake and discharge structures shall not be in an MPA or SWQPA, but subsurface slant wells are allowed. Intake and discharge structures should be sited the maximum distance from MPAs and SWQPAs.

Best Available Design

- **Best Available Design** includes intake capacity. This means a Regional Water Board must consider a smaller size facility than the one proposed by the project proponent if that smaller size would minimize marine life mortality.
- **Consideration of Need.** Regional Boards must consider whether the identified need for desalinated water is consistent with applicable county general plans, integrated regional water management plans, or urban water management plans. A design capacity in excess of the need for desalinated water cannot not be used by itself to declare subsurface intakes infeasible.
- **Subsurface Infeasibility.** If the Regional Board determines that subsurface intakes are not feasible for a certain design capacity, it shall determine whether subsurface intakes are feasible for a range of alternative design capacities.

Best Available Mitigation

- **Best Available Mitigation.** After completing a 12 month entrainment study, a project proponent may either mitigate for marine life mortality by either: (1) completing a mitigation project, or (2) paying a mitigation fee through a fee-based mitigation program. Currently, the second option is not available for project proponents as the state does not have a fee-based mitigation program for impacts to ocean resources.
- **Area Production Foregone (APF)** is the methodology used to determine lost ecological productivity due to entrainment by a desalination facility. The State Water Board requires APF to be calculated using a 95th Percentile Confidence Level to ensure that all forms of marine life are accounted for and to ensure proper replacement value is identified. The owner or operator must also mitigate for discharge- and construction-related mortality.
- **Mitigation Project.** Mitigation projects shall be accomplished through the expansion, restoration, or creation of: kelp beds, estuaries, coastal wetlands, natural reefs, MPAs, or other projects approved by the regional water boards that will fully mitigate for intake and mortality associated with the facility. "In kind" mitigation is preferred, although "out of kind" mitigation is permissible for impacts to open water or soft bottom species. When appropriate, the Regional Water Boards may increase the required size of any mitigation project using a ratio that accounts for factors such as the difficulty of restoring or establishing the desired level of productivity.
- **Mitigation Fee.** If the Regional Board determines that an agency has established an appropriate fee-based mitigation program, it may authorize payment of an in-lieu fee, provided the fee "will result in the creation and ongoing implementation" of a qualifying project. The fee amount must be based on the actual cost of a project. Mitigation projects that increase or enhance the viability of marine life in MPAs "are preferred, if feasible."

Brine Discharge

- **Preferred Brine Technology.** The preferred method for disposing of brine is to commingle it with treated wastewater. The project proponent must demonstrate that commingling will meet the receiving water limitation for salinity.
- **Diffusers** are the next best method for discharging brine when treated wastewater is not available. Other technologies can be substituted for diffusers only if the project proponent can demonstrate a comparable minimization of marine life mortality as commingling wastewater (or diffusers if wastewater is unavailable).
- **Receiving Water Limitation for Salinity.** Dischargers shall not exceed a daily maximum 2.0 parts per thousand above natural background salinity no further than 100 meters from the discharge point (referred to as a ZID). The Carlsbad Desalination Project in San Diego has a larger 200 meter zone of initial dilution.
- **Water Recycling Conflict.** Commingling brine with treated wastewater is no longer the preferred technology if that water is needed for water recycling.
- **Flow Augmentation** is illegal for all facilities using an open-ocean intake except for the Carlsbad facility.