September 30, 2009

Charlie Hoppin, Chair and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814
Via Email: commentletters@waterboards.ca.gov

Re: Comments on "Water Quality Control Policy on the use of Coastal and Estuarine Waters for Power Plants" Draft Substitute Environmental Document and Draft "Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling."

Dear Chair Hoppin and State Water Board Members:

The undersigned individuals respectfully submit the following comments on the State Water Resources Control Board ("State Board") and California Environmental Protection Agency Draft Substitute Environmental Document for the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling and the draft Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling ("draft policy'). As people that are deeply concerned about the health of California's coastal and marine ecosystems, we thank the State Board and staff for their dedication to this important issue and appreciate the opportunity to provide comments on the draft policy. Although we believe the draft policy is a step in the right direction, we encourage the State Board to strengthen the final policy by addressing loopholes that currently exist within the draft policy to ensure that beneficial uses of the state's coastal and estuarine waters are protected and that the policy be consistently applied throughout the state.

Addressing the Impacts of Once-Through Cooling in California is Long Overdue

Once-through cooling ("OTC") has decimated California's marine and estuarine ecosystems for decades. For example, all of the federally listed and imperiled salmon species that migrate in and out of the Sacramento and San Joaquin River watersheds, including Chinook salmon, Coho salmon, and steelhead trout, must pass the intakes for two aging power plants on the San Francisco Bay-Delta Estuary (Pittsburg and Contra Costa) on their way in and out of the Delta. Records for both of these plants demonstrate that they illegally entrain and impinge endangered species, including the Delta smelt and the Chinook salmon.[1] These concerns were echoed in a 2007 Notice of Intent to Sue for Violations of the Endangered Species Act by numerous water districts, who raised legal concerns about the harm caused by the OTC systems at two Delta powers plants on "endangered Sacramento winter-run chinook salmon, threatened Central Valley spring-run chinook salmon, threatened Central Valley steelhead and threatened delta smelt." The water districts' 60-Day Notice stated that "[c]ooling water intake structures directly and indirectly cause a number of detrimental effects on fish populations," resulting in "illegal take" of those fish.[2]

Coastal power plants that use OTC also have devastating impacts to southern California coastal ecosystems. The three power plants using OTC (Scattergood, El Segundo, and Redondo Generating

[1] EPA 821-R-02-2002, Case Study Analysis for the Proposed Section 316(b) Phase II Existing Facilities Rule, Part E: San Francisco Bay/Delta Estuary, p. E3-15 (February 28, 2002).
[2] Nossaman, Gunther, Knox and Elliott, LLP, "Notice of Intent to Sue for Violations of the Endangered Species Act" (Sept. 27, 2007). Available at http://www.sustainabledelta.com/pdf/legal-092707.pdf.

Stations) in the Santa Monica Bay cycle 13% of the Bay's water every six weeks.[3] A 2005 study estimated that for the 12 coastal power plants in the Southern California Bight, there is an overall cumulative entrainment mortality of 1.4% of larval fish in the Bight. Considering only recreational fished species, impingement amounted to 8-30% of the number of fish caught recreationally in the Bight in 2003.[4]

In enclosed bays as estuaries such as Alamitos Bay, San Diego Bay and Elkhorn Slough, the impacts from OTC can be even more pronounced than in coastal waters. It is estimated that the Haynes Generating Station and Alamitos Generating Station take in the entire volume of Alamitos Bay every five days.[5] In a state where our economic activity is largely fueled by the health of our coastal resources and that leads the nation in a strong commitment to sustainable energy, there is no question that California has the right and responsibility to move past this antiquated cooling technology.

We urge the State Board to adopt a strong policy that protects its marine and estuarine ecosystems, while advancing to greener and more energy efficient energy production by phasing-out OTC. It has been over 35 years since the Clean Water Act first outlined requirements for power plant cooling technology. Multiple federal and state agencies, including the U.S. Environmental Protection Agency, California Energy Commission, Ocean Protection Council, and State Lands Commission, have recognized that OTC causes significant, ongoing devastation to our valuable marine resources.[6] Yet, this outdated technology is still broadly used along our coast; the 19 coastal power plants in California combined are permitted to withdraw up to 16 billion gallons of sea water, and associated marine life, every day.

Cost Should not be Given the Upper-hand over Technology for Compliance

In 1972 the United States Congress recognized that OTC was creating unnecessary adverse impacts on marine life and consequently enacted Clean Water Act section 316(b). Congress intentionally drafted language in the Clean Water Act to force improvements in technology by requiring the best technology available to minimize adverse impacts.[7] Although industry has raised concerns about the costs of shifting away from OTC, the State Board and Ocean Protection Council have conducted studies that find a transition to closed-cycle cooling technically feasible for most coastal power plants in California, even at the largest statewide contributors to source water intake, San Onofre Nuclear and Diablo Canyon Generating Stations. In reality, most of the coastal generators would likely repower to transition away from OTC. Long Beach Generating Station transitioned to dry cooling in 2007 through repowering and El Segundo Generating Station submitted a permit request to the California Energy Commission to repower

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[3] California Energy Commission, *Issues and Environmental Impacts Associated with Once-Through Cooling at California's Power Plants*, California Energy Commission Staff Report Prepared in Support of the 2005 Integrated Energy Policy Report, June 2005, CEC Report No. 700-2005-013.

[4] California Energy Commission (2005) Issues and Environmental Impacts Associated with Once-Through Cooling at California's Coastal Power Plants: Staff Report; and State Water Resources Control Board and California Environmental Protection Agency (July 2009) Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling: Draft Substitute Environmental Document.

[5] California Energy Commission (2005) Issues and Environmental Impacts Associated with Once-Through Cooling at California's Coastal Power Plants: Staff Report.

[6] Clean Water Act section 316(b); California Energy Commission, *Issues and Environmental Impacts Associated with Once-Through Cooling at California's Coastal Power Plants*: Staff Report, 2005; Resolution of the California Ocean Protection Council Regarding the Use of Once-Through Cooling Technologies in Coastal Waters (adopted April 20, 2006); Resolution By The California State Lands Commission Regarding Once-Through Cooling In California Power Plants (adopted April 17, 2006) ("SLC Resolution").

[7] *Kennecott v. United States EPA*, 780 F.2d 445, 448 (4th Cir. 1985) found that it was the intention "of Congress to use the latest scientific research and technology in setting effluent limits, pushing industries toward the goal of zero discharge as quickly as possible."

two of its OTC units to dry cooling. Both of these plants have relatively limited space, but have demonstrated that repowering to dry cooling is a feasible, efficient option. These studies and examples should be used as guiding information to shape the final policy, and we urge the State Board to define the best technology available as closed-cycle cooling. We further urge the State Board to ensure that cost considerations are not given an upper-head over technological considerations in compliance with the final policy.

Marine Life Mortality Reduction Requirements Should be Consistent Across Various Compliance Options and Account for Seasonal and Historic Impacts

The draft policy offers two tracks for final compliance: Track 1, which is currently defined as closed-cycle wet cooling (estimated as a 93% reduction in marine life mortality) and Track 2, which allows for the use of alternate technologies to achieve marine life mortality reductions. The final policy should require consistent marine life mortality reductions regardless of the approach taken to achieve compliance. Unfortunately, as currently written, Track 2 is less stringent and allows for higher impingement and entrainment rates. The draft policy suggests that plants selecting the Track 2 compliance option will have to achieve a 90% reduction of the reduction that could be achieved under Track 1; in other words, 90% of 93%, which totals an 83% in marine life mortality. We urge the State Board to require that all plants reduce entrainment and impingement consistent with the Track 1 standard. Maintaining Track 2 so separate technologies may be used from Track 1 to comply with the ultimate policy is understandable, but the percent reduction targets should be equivalent in both compliance tracks to adequately protect our coastal marine resources from this antiquated technology.

Furthermore, we urge the State Board to address seasonal impacts in the final policy. Many of California's coastal power plants currently operate as "peaker" plants, during times of peak energy demand. This is typically during hot summer months, which is also the time when peak larval abundance for most species in Southern California is at its highest.[8] It is critical that compliance with marine life mortality reduction requirements takes into account these seasonal variations to truly reduce entrainment impacts.

The persistent use of OTC at coastal power plants has clearly contributed to the loss of biodiversity and the documented population decline of many marine species over the past 50 years. Although we support a simple approach to phasing out OTC along California's coast, it should be recognized that today's impacts are not reflective of the 40-50 years of marine life impacts caused by OTC, where adjacent ecosystems have suffered a long history of entrainment and impingement. We cannot go back in time to gauge the true impact of these facilities; however, we recommend the State Board ensure that reference location studies are conducted to better determine ecological productivity in areas without impacts from OTC to more accurately assess impingement and entrainment impacts. Accurate monitoring and assessment of biological and resource impacts (both past and present) is critical, and the subsequent information should be used to inform interim restoration requirements for coastal generators.

Conclusion

We are long overdue for the state to embrace a policy on OTC that reflects Californians' demand for providing the utmost protection for our valuable marine and coastal resources, and for investing in a sustainable, environmentally sound future energy supply. California has consistently set high standards

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[8] AES Huntington Beach L.L.C., "Generating Station Entrainment and Impingement Study Final Report" (April 2005), prepared by MBC Applied Environmental and Tenera Environmental, *see* Section 4.3.1 Entrainment Results; "Southern California Time Series: SCOR WG125: Global Comparisons of Zooplankton Time-Series" (May 19, 2008), available at http://planktondata.net/time-series/calcofi-sc_us/index.html.

for the protection of the state's world-renowned coastal and marine resources, through the Marine Life Protection Act, the California Ocean Protection Act, and the Marine Life Management Act, among others. We support the State Board's adoption of a policy on OTC that is consistent with these laws, with the Clean Water Act and Porter-Cologne, and with other state laws and policies that commit California to a sustainable energy path. We urge the State Board to expeditiously adopt and implement a state policy on OTC that charts an environmentally sustainable course for California's future.

Sincerely,

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