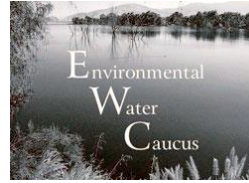
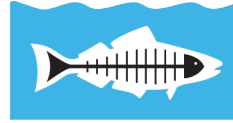




RESIDENTS FOR RESPONSIBLE DESALINATION



Inland Empire WATERKEEPER



Letter to Governor Brown, et al.

Re: Brookfield/Poseidon Huntington Beach Desalination Project – OPPOSE

July 26, 2017

The Honorable Edmund G. Brown
Governor, State of California
c/o State Capitol, Suite 1173
Sacramento, CA 95814

Felicia Marcus, Chair
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Dayna Bochco, Chair
California Coastal Commission
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California Regional Water Quality Control
Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-334

RE: Brookfield/Poseidon Huntington Beach Desalination Project – OPPOSE

Dear Governor Brown and Honorable Chairpersons:

We write in opposition to the Brookfield/Poseidon Huntington Beach seawater desalination facility as currently proposed (Project). Our organizations and our hundreds of thousands of members are dedicated to advancing freshwater sustainability, consumer protection, environmental justice, and coastal and marine conservation in California. Upcoming decisions regarding the Project are of precedential importance as California considers how to make its water supply more safe, resilient, equitable, and cost-effective into our collective long-term future. We oppose the Project as proposed because it is not consistent with these goals, and instead would:

- (1) Impose significant and unnecessary costs on Orange County water districts and ratepayers;
- (2) Set back California's efforts to advance climate-smart water policy;
- (3) Fail to alleviate reliance upon, or impacts to, freshwater ecosystems, including the Bay-Delta; and
- (4) Fail to comply with California law and regulations that govern seawater desalination facilities.¹

We should be clear that we remain open to the use of seawater desalination as a “last resort” element of a well-planned local or regional water supply portfolio that prioritizes investment in multi-benefit, cost-effective, climate-smart supplies. As recently explained

¹ We provide information in support of these arguments in the attached appendix.

by Stanford’s Water in the West Program, sustainable seawater desalination projects are those that “are smaller; that provide supply to meet a specific, clear local demand; that are located away from sensitive and valuable marine areas; and that are powered by renewable energy sources.”² For example, the proposed Monterey Peninsula Water Supply Project,³ which includes a modestly-sized desalination facility as part of a portfolio of investments, follows many of the recommendations our organizations have put forth, such as prioritizing lower-impact water resources, seeking to “right-size” the facility, and using subsurface intakes in order to comply with the State Water Board’s Ocean Plan Desalination Amendment.

By contrast, large-scale seawater desalination facilities in California will have significant economic, energy, and opportunity costs that rarely justify their benefits. It would be far too easy for an expensive and inefficient large-scale facility to become a stranded asset – or, worse, an inescapable long-term liability – for local water districts and communities at the expense of more affordable, resilient, and environmentally sound alternatives.

We also reiterate our support for a rigorous regulatory process that ensures seawater desalination facilities are sited, scaled, and designed to meet demonstrated needs and to incorporate “best available” technologies that avoid or minimize adverse impacts on California’s productive coastal and marine ecosystems. At minimum, proposed facilities must comply with the State Water Resources Control Board’s 2015 regulations governing seawater desalination facilities and brine disposal (“Desalination Policy”). They should also use innovative designs and technologies, such as the use of renewable energy to power 100% of their operations; variable production schedules that allow facilities to take advantage of less expensive electricity rates at certain times of day; and sub-surface intakes to minimize marine life impacts, in contrast to open ocean intakes, the use of which is contrary to long-standing California policy and barred from use in other contexts.

In this case, after reviewing permit application materials and other documents associated with the proposed Project, as well as claims made by the Project’s agents and lobbyists, we believe the Project is not compatible with the common-sense approaches, policies, and regulations that California has established to guide its water investments and, more specifically, to guide the introduction of seawater desalination into the state’s water supply portfolio.

For these reasons, we urge you to deny the Project as proposed pursuant to your respective authorities. California should be showing the United States and the world how it will champion innovative water solutions, rather than enabling the Project’s proponent to lock Californians into long-term dependence on a project that is more costly than the alternatives and based on the use of outdated, harmful, and unsustainable technology.

Sincerely,

² Leon Szeptycki, et al., *Marine and Coastal Impacts of Ocean Desalination in California* (Water in the West, Center for Ocean Solutions, Monterey Bay Aquarium, The Nature Conservancy, May 2016), available at <http://stanford.io/2axdXE7>.

³ See Monterey Peninsula Water Supply Project, <https://www.watersupplyproject.org/>.

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Re: Brookfield/Poseidon Huntington Beach Desalination Project – OPPOSE

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Claire Robinson
Managing Director
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Colin Bailey
Executive Director & Managing Attorney
The Environmental Justice Coalition for Water

APPENDIX

The Brookfield/Poseidon Huntington Beach Project (“Project”) would impose significant and unnecessary costs on Orange County water districts and ratepayers.

A recent analysis from the Pacific Institute found that when the full costs of construction and lifetime operation are calculated, seawater desalination is the most expensive “alternative” water supply option available, as compared to indirect potable reuse, direct reuse, brackish groundwater desalination, and stormwater capture, while conservation and efficiency can generate significant *savings*.¹

In the case of the Brookfield/Poseidon Huntington Beach project, construction costs of the facility alone have been estimated at \$1 billion; additional anticipated costs include up to \$100 million to build and manage a new pipeline system to convey the water to customers; maintenance and repair costs resulting from siting the project in an area that is vulnerable to sea level rise, storm surge, tsunamis, and earthquakes; and the cost of re-treating any desalinated water that must be stored in groundwater aquifers. The Project will also be vulnerable to fluctuating energy costs in light of its dependence on high levels of electricity consumption.

Moreover, the proposed water purchase agreement between Brookfield/Poseidon and its potential customer, Orange County Water District (OCWD), guarantees that ***water produced by the Huntington Beach desalination project will not be cost competitive with imported water for at least the first 40 years of the project’s operation.*** Under the 2015 term sheet approved by OCWD, the “base price” of the Project’s water “will be tied to the treated full service rate cost of imported water provided by the Metropolitan Water District of Southern California (MWD).” Additional guaranteed costs include “readiness to serve” and capacity charges required by MWD, *plus* a premium to cover the facility’s operating costs and an “agreed upon rate of return” for Brookfield/Poseidon.² The premium will raise the cost of water generated by the Project as high as 20 percent above the combined cost of imported water and the MWD charges. The Project’s water can only achieve cost parity with imported water after the Project has been operating for 40 years, and even then, only if Brookfield / Poseidon is capturing its guaranteed rate of return.

Orange County does not need Brookfield/Poseidon’s water, and to the extent it does need additional local water supplies, it has better alternatives. Orange County’s existing water supply is anticipated to be sufficient to cover its anticipated needs through 2040, even in a multiple-year dry period. The Metropolitan Water District of Orange County (MWDOC), which, in coordination with OCWD, sells water at retail to local water districts throughout Orange County, recently published an urban water management plan showing that the water agencies in

¹ Heather Cooley and Rapichan Phurisamban, The Cost of Alternative Water Supply and Efficiency Options in California (Pacific Institute, 2016), *available at* <http://bit.ly/2dMKDcT>.

² Orange County Water Dist., Ocean Desalination Exploration Term Sheet Explained <http://bit.ly/2r5NQaK>.

MWDOC’s service area have successfully used conservation to limit growth in water use, keeping retail water use relatively flat even as the County’s population has increased.³

Future growth in water demand in MWDOC’s service area will also be limited. By 2040, under normal conditions MWDOC expects total retail water demand in its service area to increase by only 3.27 percent, even as population grows by 10 percent.⁴ In both normal years and single dry years, MWDOC’s available water supply “will meet projected demand due to diversified supply and conservation measures.”⁵ Even in a multiple-year drought, “MWDOC is capable of meeting all retail agency demands with significant reserves held by [MWD] from 2020 through 2040 with a demand increase of 6 percent.”⁶ In a recent presentation to the MWDOC Board of Directors, MWDOC staff calculated only a 30 percent likelihood that available supplies may not meet demand in 2040; even then, they explained, a 10,700 acre-foot (AF) project would be sufficient to fill the anticipated gap. Staff also concluded that the Brookfield/Poseidon project “would supply more water than needed in most every year.”⁷

As it works to reduce its reliance on imported water over time, Orange County has cheaper and more sustainable alternatives to the Project. MWDOC’s Urban Water Management Plan describes many such options, including water recycling, stormwater capture, enhanced storage, and brackish groundwater desalination, as well as smaller seawater desalination projects. Collectively these projects could provide far more “new” water than the anticipated 56,000 AFY that the Brookfield/Poseidon project would produce. Specific examples⁸ include:

Metropolitan Indirect Potable Reuse Project (Carson City)	65,000 AFY
Santa Ana River Conservation & Conjunctive Use Program	60,000 AFY
Expansion of water recycling throughout Orange County	53,520 AFY
Groundwater Replenishment System expansion	30,000 AFY
Doheny Desalination Project (using subsurface intakes)	16,800 AFY
West Orange County Enhanced Pumping Project	10,000 AFY
Total potential production of alternatives shown here	235,320 AFY

³ Municipal Water District of Orange County, 2015 Urban Water Management Plan 2-1 (April 2016 Draft), *available at* <http://bit.ly/2pb6C2M>.

⁴ Id. at 2-2 and 2-5.

⁵ Id. at 3-47 and 3-48.

⁶ Id. at 3-49.

⁷ Municipal Water District of Orange County, OC Water Reliability Study Overview (February 6, 2017), *available at* <http://bit.ly/2qSR1py>.

⁸ Id. at 6-3 and 7-2.

The Brookfield/Poseidon Project would set back California’s efforts to advance climate-smart water policy

State policies and climate change strategies such as the Governor’s Executive Order B-20-15 on Climate Change, the 2017 AB 32 Scoping Plan Update, *Safeguarding California*, and *Making Water Conservation a California Way of Life* aim to make California’s water supply and conveyance system less energy intensive, reduce its direct and indirect GHG emissions, and make it more resilient to climate impacts. These policies require “full life-cycle cost accounting,”⁹ and prioritize greater use of water conservation, efficiency, recycling, stormwater capture, and sustainable groundwater management.¹⁰ Similarly, the State Water Resources Control Board’s recent climate change resolution acknowledges the need to modify permits and other regulatory requirements to reduce the vulnerability of water infrastructure to flooding, storm surge, and sea level rise.¹¹

By contrast, seawater desalination is the most energy-intensive water supply option available and, in the absence of an electricity supply that is based on renewable energy sources, will generate significant direct and indirect GHG emissions.¹² The Brookfield/Poseidon Project is no exception. It will create significant new, unplanned energy demand in a region that is already electrically constrained.¹³ It will be fueled primarily by fossil fuels, generating more than 10,000 metric tons of GHGs in the course of its construction and nearly 70,000 metric tons of GHGs *each year* over anticipated lifetime.¹⁴ The Project is also vulnerable to flooding and inundation from sea level rise and storms within its anticipated lifetime.¹⁵

The best way to reduce GHG emissions is to avoid them in the first place, and the best way to avoid vulnerability to sea level rise is to develop new sources that are not in the ocean’s way. As noted above, Orange County has identified a range of less energy- and GHG-intensive options to

⁹ Executive Order B-30-15, Section 6 (April 29, 2015), *available at* <http://bit.ly/1KmlVsi>, (“State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives.”)

¹⁰ California Air Resources Board, 2017 Climate Change Scoping Plan Update (Jan. 20, 2017), *available at* <http://bit.ly/2lQuFzb>; California Natural Resources Agency, *Safeguarding California Plan: 2017 Update (Draft, May 2017)*, *available at* <http://bit.ly/1MgQd16>; California Department of Water Resources, et al., *Making Water Conservation a California Way of Life: Implementing Executive Order B-37-16 (April 2017)*, *available at* <http://bit.ly/2oYfGZl>.

¹¹ State Water Resources Control Board, Resolution No. 2017-0012, *Comprehensive Response to Climate Change (March 7, 2017)*, *available at* <http://bit.ly/2r9nWqj>.

¹² H. Cooley and M. Heberger, *Key Issues for Seawater Desalination in California: Energy and Greenhouse Gas Emissions (Pacific Institute, May 2013)*, *available at* <http://bit.ly/2r9lUGF>.

¹³ See Natural Resources Defense Council, *Proceed with Caution II: California’s Droughts and Desalination in Context (March 2016)*, *available at* <http://on.nrdc.org/2qofMHX>.

¹⁴ Poseidon Resources, *Huntington Beach Desalination Plant, Energy Minimization and Greenhouse Gas Reduction Plan (Nov. 6, 2017)*, *available at* <http://bit.ly/2r91NZg>.

¹⁵ California Coastal Commission, *Poseidon Water Staff Report, Appeal No. A-5-HNB-10-225*, pg. 75 (October 25, 2013); *available at* <http://bit.ly/2rQZoiK>. The Poseidon site and facility would be subject to flooding and tsunami runup, both of which would be exacerbated by expected higher sea levels during the life of the project.

secure new water. Orange County officials and California leaders should be encouraging those climate-smart alternatives to this Project.

The Brookfield/Poseidon Project would fail to alleviate reliance upon, or impacts to, freshwater ecosystems, including the Bay-Delta

Many of us have worked for decades to advance the long-term health and stewardship of the Bay-Delta as a critically important ecosystem and water supply. Many have also worked to improve local supplies in Southern California, as we know is necessary to make Southern California more self-reliant. However, seawater desalination is not a viable solution to this problem. As explained in a recent report from Stanford’s Water in the West program:

Ocean desalination will not, in the foreseeable future, significantly reduce stress on freshwater resources—particularly freshwater ecosystems. Even the highest total projected production of potable water from ocean desalination in California is so low that it will not meaningfully reduce stress on freshwater systems, such as, for example, exports from the Bay Delta system.... In addition, it is not clear the extent to which planned desalination facilities will provide the regions with supplemental supply and therefore work to reduce or replace existing demands on groundwater and surface water sources.¹⁶

Brookfield/Poseidon has not been able to identify any agreement or mechanism by which construction of its project would guarantee that water remains in the Bay-Delta or other surface water sources. Indeed, legal and practical barriers preclude any possibility that construction of this Project, or indeed any desalination facility in Southern California, would significantly reduce withdrawals from the Bay-Delta. The existing water supply contract between MWD and the State Water Project, which underlies exports to Orange County via MWD and MWDOC, prevents new local supplies in Southern California from limiting MWD’s ability to import or use its full State Water Project entitlement.¹⁷

The Brookfield/Poseidon project fails to comply with California law and regulations governing seawater desalination facilities

Since 1976, California law and policy have strongly discouraged the use of “open ocean” water intakes for industrial facilities because they entrain and kill organisms that are integral parts of California’s productive marine and coastal ecosystems.¹⁸ Under state law and the U.S. Clean Water Act, such intakes are no longer permissible for coastal power plants, which must use alternative cooling technologies to minimize their impacts or else (in the case of existing

¹⁶ Leon Szeptycki, et al., *Marine and Coastal Impacts of Ocean Desalination in California* (Water in the West, Center for Ocean Solutions, Monterey Bay Aquarium, The Nature Conservancy, May 2016), available at <http://stanford.io/2axdXE7>.

¹⁷ San Diego County Water Authority, SEAWATER DESALINATION PROGRAM AGREEMENT AMONG THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, THE SAN DIEGO COUNTY WATER AUTHORITY, et al., SDP Agreement No. 70025, Section 13: Metropolitan’s Imported Water Entitlements (Nov. 24, 2009).

¹⁸ California Water Code § 31342.5(b); California Public Resources Code §§ 30230-31.

facilities) achieve comparable harm reduction through other means.¹⁹ This clear emphasis on protecting California’s ecology and natural heritage is continued under the State Water Resources Control Board’s 2015 regulations governing seawater desalination facilities and brine disposal (“Desalination Policy”),²⁰ which are intended to minimize the “significant intake and mortality” of marine life, and the associated “loss of biological productivity,” that is caused by the potential use of open ocean intakes at seawater desalination facilities.

The Desalination Policy establishes subsurface water intakes as the preferred technology for avoiding such harms. It requires the use of site selection, facility design (including but not limited to facility size), and control technologies to minimize environmental harms and, where such measures are demonstrably infeasible, requires mitigation to compensate fully for all unavoidable harms.²¹

The Brookfield/Poseidon project would fail to comply with the Desalination Policy, and fail to be consistent with California’s long-standing priorities, if assessed for compliance today. The Project’s current flaws include:

- Failure to identify a need for desalinated water that is sufficient to justify Brookfield/Poseidon’s proposed choice of facility site, design (including size), and control technologies. (See discussion of needs and alternatives, above.)
- Failure to complete an environmental impact report (EIR) of the Project and related activities and actions, including the likely uses of Project water and the potential impacts of those uses on the environment; alternative means and routes of transmitting Project water to anticipated customers; potential impacts to marine protected areas (MPAs); and any anticipated updates or changes to the Project’s site, design, and control technologies that would be required to secure a tidelands lease from the State Lands Commission and bring the project fully into compliance with all applicable state laws and policies.
- Continued use of the Huntington Beach Generating Station’s antiquated open-ocean intakes past the end of 2019, thereby perpetuating harms that will no longer be caused by the generating station itself – and indeed would no longer be lawful for the station itself to cause under California’s Once-Through Cooling (OTC) Policy.²²

¹⁹ See State Water Resources Control Board, Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, as amended April 7, 2015 (“OTC Policy”), available at <http://bit.ly/2qkjr6D>; *id.*, OTC Policy, Final Substitute Environmental Document (May 4, 2010), available at <http://bit.ly/2qoCeAq>.

²⁰ State Water Resources Control Board, Resolution No. 2015-0033, Amendment to the Statewide Water Quality Control Plan for the Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, and to Incorporate Other Nonsubstantive Changes (“Desalination Policy”), May 6, 2015, available at <http://bit.ly/2pOC6cm>.

²¹ California Water Code § 13142.5(b); Desalination Policy, Part III.M.2.e (“Mitigation for the purposes of this section is the replacement of all forms of marine life or habitat that is lost due to the construction and operation of a desalination facility after minimizing intake and mortality of all forms of marine life through best available site, design, and technology.”)

²² OTC Policy § 3(E) (Huntington Beach Generation Station compliance deadline of December 31, 2020).

- Use of 1 mm screens to attempt to reduce marine life mortality, despite Water Code requirements that new or expanded industrial facilities must “minimize” marine life mortality, as well as conclusions by the State Water Board and its Expert Review Panel on Desalination Plant Entrainment Impacts and Mitigation that ***a 1 mm screen would reduce marine life mortality by, at most, one percent.*** Indeed the State Water Board found that “fine meshed screens ... still allow all small phytoplankton and zooplankton, and the majority of eggs, and fish and invertebrate larvae to pass through” the screens and be entrained.²³ (By contrast, alternatives to full “Track 1” compliance with the OTC Policy must reduce mortality by 90 percent as compared to full compliance.²⁴)
- Failure to demonstrate that alternative facility sites, including sites that would support the use of subsurface intakes, would not be feasible.
- Failure to demonstrate that alternative facility designs, including a combination of smaller facility sizes and alternative intake designs, including subsurface intakes, would not be feasible. The State Water Board has determined that “a design capacity in excess of the need for desalinated water ... shall not be used by itself to declare subsurface intakes as not feasible.”²⁵
- Failure to demonstrate, using a full life-cycle cost analysis, that the Project as proposed – as compared to the potential use of alternative sites, sizes, and designs for which subsurface intakes would be feasible – would be the only economically viable option for meeting the demonstrated need for the facility’s water.²⁶
- Failure to demonstrate that the Project will not adversely impact nearby state marine protected areas (MPAs) or the ecological connectivity between those MPAs.²⁷

Because of these serious outstanding shortcomings, it is imperative that California’s public trust and regulatory agencies undertake stringent analysis of the Brookfield/Poseidon project. If the Project cannot be brought into compliance, it must not be authorized to proceed.

²³ State Water Resources Control Board, Final Staff Report Including Substitute Environmental Documentation for Amendment to California Ocean Plan Addressing Desalination Facility Intakes, Brine Discharges, and Incorporation of other Non-Substantive Changes 51, 56, 98 (2015) (“Desalination Policy SED”), *available at* <http://bit.ly/2pN3qZ9>.

²⁴ OTC Policy § 2 (A)2).

²⁵ Desalination Policy § M(2)(d)(1)(a).

²⁶ Desalination Policy § M(2)(d)(1)(a)(i); Executive Order B-30-15, Section 6.

²⁷ See Public Resources Code §§ 36710 (stating that it is unlawful to “injure, damage, take, or possess” any living marine resource within a state marine reserve, and unlawful to “injure, damage, take, or possess” any living marine resource in a state marine conservation area for commercial or recreational purposes); Fish & Game Code § 2862 (requiring the Department of Fish and Wildlife to evaluate “proposed projects with potential adverse impacts to marine life and habitat in MPAs” and to “recommend measures to avoid or fully mitigate any impacts that are inconsistent with the goals and guidelines of [the Marine Life Protection Act] or the objectives of the MPA.”).