
Carlsbad, CA Desalination Plant
(credit: sdcwa.org)

Let me begin this commentary with a disclaimer:

I was an early and strong proponent of Proposition 20, the successful 1972 California voter initiative measure that enacted the Coastal Act and created the California Coastal Commission (albeit temporarily). I supported with equal enthusiasm the state Legislature's 1976 enactment of legislation making both the Coastal Act and the Commission permanent. For the past 50 years I've similarly advocated for robust implementation and enforcement of the Coastal Act. And one of the highlights of my legal career in the California Department of Justice was the privilege of representing the Coastal Commission in state and federal courts for over a quarter century.

So it pains me to criticize a recent, closely-watched decision by the Coastal Commission to vote down–unanimously–a desalination plant that the Poseidon Water Company had proposed to build on a remediated Superfund site in Huntington Beach, California. That plant would have converted approximately 50 million gallons of seawater per day into fresh water for urgently-needed residential, commercial and industrial water use in Southern California.

Governor Gavin Newsom, numerous other state agencies and Southern California local governments all supported the Poseidon desalination project as a critical, new source of fresh water in the face of "new normal," persistent and severe drought conditions plaguing most of California and the American Southwest. Nevertheless, the Coastal Commissioners rejected the project, citing environmental concerns.

Why is the Commission's vote misguided? Let me count the ways.

First, desalination technology is neither new nor unproven. For years "desal" has served as a key source of freshwater for nations like Israel, Saudi Arabia and Singapore. In California,

a dozen desalination plants of various capacities are currently in operation. And Poseidon Water's ability to design and build a large, state-of-the-art desal plant is well-documented: one need only travel 60 miles down the California coast from Huntington Beach to find the desalination plant Poseidon built and currently operates in Carlsbad. That plant, *approved* by the Coastal Commission 15 years ago, commenced operation in 2015 and now provides a significant fraction of the San Diego metropolitan area's freshwater supply. It's also the largest desalination plant in the United States.

Second, while the Commission and some environmental groups expressed concerns with claimed adverse environmental impacts of Poseidon's proposed Huntington Beach desal project, those concerns seem highly exaggerated. The key environmental objections relate to: 1) fish and other marine organisms being sucked into ("entrained" by) the plant's saltwater intake system; and 2) the discharge of brine water–a byproduct of the desalination process–back into the ocean. These were legitimate concerns with "first generation" desal projects that used massive intake pipes located atop the seabed, and discharged brine directly back into ocean waters. But more sophisticated, currently-available desal technology has largely alleviated those concerns. Dispersed, low pressure water intake systems deployed *below* the seabed can for the most part eliminate the entrainment problem. And at Poseidon's existing desal plant in Carlsbad, settling ponds capture and dilute the discharged brine before it is reintroduced into the ocean. (These technological advances mirror those of wind turbines used to generate renewable energy: early wind farms had an alarming propensity to kill a variety of bird species that collided with turbine blades; those avian kills have been reduced dramatically in recent years, thanks to the introduction of larger, more visible and far slower-moving wind turbines.)

If the Coastal Commission had reservations about perceived adverse environmental impacts of the proposed Huntington Beach desal plant, it should have conditioned its approval of the facility on specific mitigation measures designed to address those concerns rather than reject the project out of hand.

Third, desal critics often cite the fact that the desalination process is energy-intensive. That's true. But in its project application, Poseidon pledged to power the Huntington Beach plant exclusively from renewable energy sources, making it the first carbon-neutral desal facility in the nation.

To be sure, conservation is the best, cheapest and quickest strategy available to stretch California's dwindling water supplies. So it is and should remain the first option in the state's water planning efforts. But most water experts agree that in an era of climate change, protracted drought conditions and attendant, dramatically shrinking water

availability for California's 40 million residents, we won't be able to simply conserve our way out of the state's present and future water crisis. Simply put, we'll need additional water supply as well.

And the "conservation only" strategy is flawed in another important respect: California's environment actually requires *more* water in the future. Historically, drought and water shortfalls have hit California's ecosystem needs far more severely than human water demands. The state's rivers and lakes, together with freshwater fish and wildlife species, will all require substantial additional water to restore and sustain them in the future. In the long-term, desalination–along with aggressive conservation measures–represents the best strategy to provide the water necessary to maintain California's imperiled freshwater ecosystems and environmental values.

Poseidon indicates it doesn't plan to appeal the Coastal Commission's rejection of the Huntington Beach project. Like the Commission's decision to kill the project, Poseidon's announcement is unfortunate.

Other desalination projects along California's coast will be proposed, debated and voted on in the months and years to come. Let's hope the Coastal Commission, together with other state and local agencies with jurisdiction over desal projects, take a more enlightened, visionary and clear-eyed view of them in the future.