

April 24, 2019

Hon. Jared Huffman, Chairman
Hon. Tom McClintock, Ranking Member
Subcommittee on Water, Oceans and Wildlife
1324 Longworth House Office Building
Washington, DC 20515

re: The State of Western Water Infrastructure and Innovation
April 2, 2019 Hearing

Dear Chairman Huffman and Ranking Member McClintock:

My company, Poseidon Water, LLC, is a private developer of water infrastructure projects specializing in Public-Private Partnerships and experienced in reverse osmosis seawater desalination. Recently, I was alerted to a discussion of our Carlsbad Desalination Plant at the Subcommittee's April 2 hearing. I am compelled to write to clarify certain points raised at the hearing and respectfully request that this letter be included with the record of the hearing.

Let me first thank the Committee for bringing focus to a matter of high national importance: the severe and mounting water supply challenges affecting the entire western United States. They result from a several inexorable trends, e.g., rising population and economic growth; rising temperatures and changing precipitation patterns, linked to recurrent wide-area drought; aging water infrastructure; and long-term overdraft of groundwater. These conditions are acute in the arid, densely-populated coastal region of Southern California, where they have led to rising interest in a range of new, locally-based, more sustainable and environmentally feasible solutions such as wastewater recycling (non-potable reuse and both indirect and direct potable reuse); stormwater capture; and seawater desalination. During the hearing, several assertions regarding the latter seemed off-point and based on misunderstandings. I am writing to clarify a few of these points and would like to mention three in particular.

Energy use: One common myth about desalination is that it requires vastly more energy than conventional water supply. The reality is that water use in all forms is a significant driver of energy demand throughout the arid west and, given the

distance from abundant freshwater sources, especially in Southern California. Several years ago, the Metropolitan Water District of Southern California estimated that the electricity required to deliver water to that region's residential consumers equaled one-third of total average household electric use. Given this high baseline energy requirement, Carlsbad's provision of locally-based water through desalination has not materially changed the overall energy profile of water – yet it has significantly improved the reliability of County water supplies. The entire cost of the Carlsbad project, including not just energy but debt, equity and O&M (operations and maintenance) as well, results in a bill impact to the typical San Diego household of \$0.13 per day.

Public-private partnership: Large water infrastructure projects typically utilize public funds through direct government expenditure or public agency bonding. The Carlsbad project is a salient exception as it was completed and financed through a Public-Private Partnership, a rigorous, contractually-based structure that protected ratepayers from cost overruns, and shields County taxpayers from paying for debt service and other fixed costs if and when the project is not producing water. Following financial close in December 2012, it was completed on-time and on-budget, entering service in December 2015. These are notable distinctions given that a 2016 Ernst & Young report found that nearly three quarters of all large water infrastructure projects experience delays and cost overruns of as much as 50%.

Operational benefits of local resources: Water resources vary widely in value based on location, firmness and water quality. It is difficult, if not impossible, to draw direct, single-factor comparisons between highly disparate sources. The Carlsbad plant, for example, provides San Diego County with a resource that is locally-controlled and droughtproof. Upon its startup in 2015, county residents were relieved from the onerous drought restrictions that had been imposed in the final years of a five-year drought that gripped the entire state, depleting reservoirs and sharply curtailing deliveries from the State Water Project.

As a technology-neutral developer of a broad range of water infrastructure projects, we at Poseidon readily acknowledge that seawater desalination is by no means a panacea for the water challenges of the west. We do believe, though, that it can play a highly strategic role when used in a well-targeted way. The Carlsbad plant has delivered more than 45 billion gallons of drinking water of the highest quality directly into the County water system since it started operations. We have been gratified by the strong public support it enjoys throughout the San Diego region. Among the thousands of visitors to our plant, we have been honored to host several members of Congress and other high-ranking government officials. I am pleased to invite you and all of your Subcommittee

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colleagues to visit and learn how this solution – well-accepted throughout other regions of the world – can play a role in addressing the specific challenges of the western US. Should you seek additional information or perspective in future hearings regarding desalination or the use of public-private partnerships to develop water infrastructure, do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Carlos A. Riva". The signature is fluid and cursive, with a long horizontal stroke at the end.

Carlos A. Riva
President, CEO

cc: Senator Dianne Feinstein
Senator Kamala Harris

Members, Water, Oceans & Wildlife Subcommittee

Rep. Mike Levin (49th District, California)
Rep. Harley Rouda (48th District, California)