
San Diego Regional Water Quality Control Board

November 30, 2018

Sent by Email Only

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In reply refer to / attn:
640063:bneill

Subject: Pump Procurement for the Carlsbad Desalination Plant Intake and Discharge Modifications

Mr. MacLaggan:

By letter dated November 19, 2018, Poseidon Resources (Channelside) LP (Poseidon) requested concurrence from the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) that the Indar Axial Flow Pump complies with the requirements set forth in chapter III.M.2.d.(2)(d).ii. of the *Water Quality Control Plan for the Ocean Waters of California* (Ocean Plan), which states in relevant part the following:

[I]f the owner or operator of the facility proposes to use flow augmentation as an alternative brine discharge technology, the facility must: use low turbulence intakes (e.g., screw centrifugal pumps or axial flow pumps) and conveyance pipes; convey and mix dilution water in a manner that limits thermal stress, osmotic stress, turbulence shear stress, and other factors that could cause intake and mortality of all forms of marine life; ...

The San Diego Water Board understands that Poseidon issued a request for proposals for pump procurement that included the Ocean Plan chapter III.M.2.d.(2).(d).ii. criteria.¹ In Poseidon's view, the Indar proposal is the most responsive of the three proposals received. Indar is the pump division of the Ingeteam international industrial group headquartered in Spain. Poseidon plans to issue a purchase order for the Indar Axial Flow Pumps on November 30, 2018.

Poseidon reports that that the Indar Axial Flow Pumps have the following design features:

- Axial flow pump
- Low speed - 235 rpm (minimizes pump related shear)
- Variable speed pump drives (further reduces pump speed and pump related shear)
- Water passes through pump in about one second (minimizes pump related shear stress)
- Even blade loading (minimizes pump related pressure gradient and shear)
- Blunt leading blade edge (minimizes impeller blade strike mortality)
- Minimizes freestream flow area (minimizes pump related shear)
- Heat input less than 0.02 degrees Centigrade (minimizes pump related thermal stress)

¹ Under Poseidon's proposal to use flow augmentation as an alternative brine discharge technology, the Carlsbad Desalination Plant would need to meet the criteria in chapter III.M.2.d.(2)(d).ii).

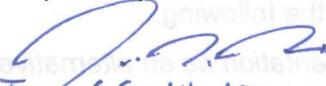
Under Water Code section 13360 the State and Regional Water Boards are prohibited from specifying the method or manner of compliance with waste discharge requirements, and the discharger is permitted to comply in any lawful manner. Accordingly, the San Diego Water Board does not have a lead role to certify the adequacy of the Indar Axial Flow Pumps.

Poseidon will ultimately be responsible for ensuring and demonstrating that the selected pumps are adequate to meet the requirements of the Ocean Plan chapter III.M.2.d.(2).(d).ii. criteria, as applicable. However, based on the representations in Poseidon's letter, the San Diego Water Board has not identified any concerns at this time regarding Poseidon's plans to move forward with the Indar Axial Flow Pumps.

If, as Poseidon proposes, the reissued National Pollutant Discharge Elimination System (NPDES) permit authorizes the Carlsbad Desalination Plant to rely on flow augmentation as an alternative brine discharge technology, the permit will require Poseidon to submit a certification report prior to initiating operation of the dilution pumps, demonstrating that the pumps comply with the chapter III.M.2.d.(2).(d).ii. of the Ocean Plan criteria and any other applicable requirements. Such a certification report would need to be prepared by a California licensed professional engineer, competent and proficient in a field pertinent to the report and qualified to prepare the report.

In the subject line of any response, please include the reference number "640063:bnell". For questions or comments, please contact Mr. Ben Neill by phone at 619-521-3376, or by email at Ben.Neill@waterboards.ca.gov.

Respectfully,


for **James G. Smith, AEO**
David Gibson
Executive Officer

DWG:jgs:dtb:bno:bin

cc by email:

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