

State of California
California Regional Water Quality Control Board
Santa Ana Region

STAFF REPORT

March 22, 2019

Item: 11

Subject: Poseidon Status Update: Evaluating the Use of Slant Wells for Subsurface Intake

BACKGROUND:

At the February 8, 2019 Regional Board meeting, State and Regional Water Board staff presented information regarding the 2015 amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to address environmental impacts associated with the construction and operation of seawater desalination facilities. Water Board Staff also provided a brief description of the analysis of potential use of subsurface intake technologies for the proposed Huntington Beach. Board members expressed an interest in receiving further information regarding seawater intake technologies.

DISCUSSION:

The Ocean Plan requires the use of subsurface intakes for desalination facilities, unless the Regional Board determines that subsurface intakes are not feasible. Since subsurface intakes extract marine water from beneath the sea floor, the water is naturally filtered as it moves through sediments. This provides a natural barrier to organisms, thereby eliminating impingement and entrainment of marine life, which are the sources of mortality encountered with surface intakes. Subsurface intakes also filter out contaminants such as suspended solids, silt, oil and grease.

Poseidon's technical team evaluated the use of subsurface intakes for desalination at its proposed Huntington Beach location. Slant wells were identified as the preferred subsurface intake technology that may be feasible at that location. A series of five iterations of groundwater modeling was performed to evaluate the feasibility of slant wells, and assess the potential impacts to the wetlands habitat and the inland freshwater aquifer due to groundwater extraction along the coastline.

For this item, in response to Board members' requests, Regional Board staff will present additional information regarding subsurface intake technologies and a summary of Poseidon's technical evaluation of the use of slant wells at the proposed Huntington Beach location.

RECOMMENDATION:

This is an Informational Item - no action is required.