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February 12, 2016

Mr. Thomas Howard  
Executive Director  
State Water Resources Board  
Division of Water Quality, 15<sup>th</sup> Floor  
1001 I Street  
Sacramento, CA 95814

Dear Mr. Howard,

**RE: Request for concurrence with interim mitigation proposal for Encina Power Station under the Once-Through Cooling Policy**

Cabrillo Power I LLC (Cabrillo), owner of the Encina Power Station (EPS), writes this letter to request concurrence on once-through cooling (OTC) interim mitigation fees that will be assessed to EPS from October 1, 2015 through December 31, 2017 which is EPS's OTC retirement deadline. The State Water Board's STATEWIDE WATER QUALITY CONTROL POLICY ON THE USE OF COASTAL AND ESTUARINE WATERS FOR POWER PLANT COOLING (OTC Policy) Section 2(C)(3)(a-e) requires that the interim impacts of OTC impingement and entrainment be compensated through use of an existing mitigation project, development of a new mitigation project, or by providing funding to the California Coastal Conservancy which will work with the California Ocean Protection Council to fund an appropriate mitigation project.

EPS is currently regulated under the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001350, Order No. R9-2006-0043. The EPS OTC system uses ocean water to cool the plant's steam condensers in each of the five steam electric generating units. In full operation, the maximum design cooling water flow through the plant is 595,200 gallons per minute (gpm) or 857 million gallons per day (MGD). The EPS OTC annual average actual flows have varied in the last three years, and are considerably less than the maximum permitted capacity (2012 = 534 MGD; 2013 = 269 MGD; and 2014 = 339 MGD).

EPS is the host site and now shares the OTC intake and discharge infrastructure with the co-located Poseidon Resources Corporation's Carlsbad Desalination Project (Poseidon project). Construction of the Poseidon project began in 2013, and commercial operation occurred in December 2015. The Poseidon project is designed to intake source water from Agua Hedionda Lagoon (AHL) through the existing EPS intake structure. According to a review of the Poseidon project permit, the total flow rate of source water is 304 MGD in order to produce ~50 MGD of potable water. Of this source water, ~107 MGD is intended to produce 50 MGD of potable water (and therefore ~57 MGD of wastewater). The remaining ~197 MGD of source water not used for production is intended as dilution water for Poseidon to meet the salinity requirements of its NPDES Permit. This results in a total discharge flow rate of ~254 MGD (57

MGD of wastewater and 197 MGD of dilution water) into the Pacific Ocean via the Encina Power Station (EPS) cooling water discharge channel.

#### EPS and Poseidon Operational Differences

The steam electric generating units (EGUs) at EPS are operated as peaking EGUs which means that these units are dispatched by the California Independent System Operator (CAISO) based upon electrical grid system demand and at variable loads. Therefore, the OTC flow is variable and intermittent, and the need for OTC flow is dependent on the operational needs of the EGUs. The operational variability associated with EPS is inconsistent with the sustained and stable ocean flow requirements of the Poseidon project. Operation of the Poseidon project requires 304 MGD of steady and sustained flow for the permitted desalination process, and to meet the effluent requirements including the dilution water for the brine wastewater discharge to achieve compliance with the discharge salinity requirements of the NPDES Permit (Permit No. CA0109223). This difference in operational regimes creates a situation in which EPS will often operate OTC circulating water pumps to exclusively supply the Poseidon project with ocean water flow for both potable water creation and dilution water for salinity adjustment.

#### Poseidon Mitigation

In consultation with multiple resource agencies, including the Regional Water Quality Control Board (Board) and the California Coastal Commission (Commission), the Poseidon project has an approved mitigation plan for the impingement and entrainment impact losses associated with the AHL source water removal required for potable water product delivery. A Minimization Plan was submitted by the Poseidon project and included a Marine Life Mitigation Plan (MLMP). The MLMP sets forth a plan for mitigation and monitoring for impacts due to entrainment and impingement from the stand-alone operation of Poseidon project as means of complying with Water Code section 13142.5(b). Although the Poseidon project will rely on EPS OTC flow at times for its source water, the mitigation provided for in the Minimization Plan, incorporating the MLMP, is expected to fully offset projected entrainment and impingement losses for up to 304 MGD of source water withdrawn directly from the AHL under conditions of co-located operation. Following numerous revisions and considerations the Commission and Board approved the Minimization Plan and MLMP in early 2009. The Commission further revised the Coastal Development Permit No. E-06-013 (CDP) Special Condition 8 (revised in September 2009) which requires that the Poseidon project provide 66.4 acres of tidal wetland in one or two phases of construction (an initial phase of at least 42.5 acres followed by up to 23.9 acres). In February 2011, the Commission approved the Poseidon project proposal to restore coastal wetlands in south San Diego County's Otay River floodplain which includes a 66-acre restoration site located in the South San Diego Bay Unit of the San Diego National Wildlife Refuge and is part of an ongoing restoration effort by the United States Fish and Wildlife Service (USFWS). The wetlands restoration site is managed and owned or leased by the USFWS exclusively for restoration of coastal wetlands and associated uplands.

#### EPS Mitigation Fee

Due to the co-location of the EPS and Poseidon project and the co-use of the AHL source water for both OTC flow and/or desalination, EPS respectfully requests the Board to consider Poseidon's impingement and entrainment mitigation as satisfying up to 304 MGD of the EPS OTC flow interim mitigation fee requirements per OTC Policy Section 2(C)(3)(b). The Poseidon project mitigation is consistent and has met the requirements with OTC Policy Section 2(C)(3)(c) which requires that the impacts of OTC impingement and entrainment be compensated for with the following language, "Developing and implementing a mitigation project for the facility, approved by the State Water Board, which will

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compensate for the interim impingement and entrainment impacts. Such a project must be overseen by an advisory panel of experts convened by the State Water Board.” EPS recognizes that OTC flow which exceeds 304 MGD would not be covered under Poseidon’s mitigation project, and EPS would be responsible to mitigate the differential of actual flow minus the 304 MGD mitigated flow through an agreed upon mitigation rate which would not exceed \$6.50 per million gallons.

EPS also seeks confirmation of its interpretation of OTC Policy Section 2(C)(2) which indicates that OTC flows at an existing power plant that is not directly engaging in power-generating activities, or critical system maintenance, shall cease intake flows. As previously discussed, there will be times when the Poseidon project requires that EPS operate the OTC circulating water pumps when OTC flow is not required for power-generating activities, or critical system maintenance. EPS believes that this flow as described would not be defined as OTC flow, and therefore would not require EPS to mitigate these flows under the OTC policy.

Accordingly, EPS requests that the Board provide written concurrence that:

- (1) up to 304 MGD of OTC flow which would be subject to mitigation under the OTC policy has been satisfied through the Poseidon mitigation project; and
- (2) any water flow required solely for the Poseidon project would not be defined as OTC flow and, therefore, not subject to the OTC policy interim mitigation fee requirements.

If you have any questions or comments, please do not hesitate to contact me at [george.piantka@nrg.com](mailto:george.piantka@nrg.com) or (760) 710-2156, or Tim Sisk at [tim.sisk@nrg.com](mailto:tim.sisk@nrg.com) or at (760) 710-2129.

Sincerely,



George L. Piantka, PE  
Sr. Director, Regulatory Environmental Services  
NRG Energy, West Region  
As agent for Cabrillo Power I LLC

cc: Jonathan Bishop, Chief Deputy Director, SWRCB  
Dr. Maria de la Paz Carpio-Obseso, Chief of Ocean Unit, SWRCB  
Dave Gibson, Executive Officer, SDRWQCB  
Jerry Carter, Plant Manager, Cabrillo Power I LLC  
Peter Landreth, NRG West Region  
Tim Sisk, NRG West Region