

April 1, 2011

Mr. Philip Isorena
Chief, NPDES Unit
Division of Water Quality
State Water Resources Control Board
1001 I Street, 15th Floor
Sacramento, CA 95814

Re: Special Studies and Immediate and Interim Requirements for the Once-Through Cooling (OTC)
Water Policy Applicable to the Diablo Canyon Power Plant

Dear Mr. Isorena:

In response to Executive Director Thomas Howard's November 17, 2010, letter regarding "Special Studies and Immediate and Interim Requirements for the Once-Through Cooling Water Policy Applicable to the Diablo Canyon Nuclear Power Plant," this letter transmits the following:

- 1) A proposed list of potential independent third parties with engineering experience with nuclear power plants to conduct special studies as specified in Section 3.D of the "Statewide Water Quality Policy on the use of Coastal and Estuarine Waters for Power Plant Cooling" (Policy). Pacific Gas and Electric Company (PG&E) coordinated with Southern California Edison (SCE) in developing this list of potential suppliers.
- 2) Proposed methods for compliance with the Immediate and Interim Requirements in Section 2.C of the Policy outlined in the SWRCB November 17, 2010 letter.
 - PG&E's response to these items are provided in Enclosure-1.
- 3) Request to submit a new application for waste discharge requirements for the Diablo Canyon Power Plant.
 - An updated Report of Waste Discharge, supporting information, and the last five years of monitoring information prescribed by the current plant permit will be provided in a separate submittal.

Sincerely,



Enclosure

cc: Thomas Howard, Executive Director
State Water Resources Control Board
1001 I Street, 15th Floor
Sacramento, CA 95814

Jonathan Bishop, Executive Director
State Water Resources Control Board
1001 I Street, 15th Floor
Sacramento, CA 95814

Roger W. Briggs, Executive Officer
Central Coast Regional Water Quality Control Board
895 Aerovista, #101
San Luis Obispo, CA 93401-7906
centralcoast@waterboards.ca.gov

Enclosure 1

Immediate and Interim Requirements for the Once-Through Cooling (OTC) Water Policy
Applicable to the Diablo Canyon Power Plant

State Water Resources Control Board Letter November 17, 2010

Item 1:

No later than October 1, 2011, a unit that is not directly engaging in power generating activities or critical system maintenance must cease intake flows, unless you demonstrate to the State Water Board that a reduced minimum flow is necessary for operations. Therefore, by April 1, 2011, you must provide information regarding when it is likely that each unit in your facility may not be generating power, or when you are performing critical system maintenance that would result in the cessation of intake flows. This information may be provided in terms of likely months when there will be no intake flow, with the understanding that if a need for power arises, that intake flows will re-start, as long as appropriate documentation is later provided regarding that unexpected power demand. If a reduced minimum flow is necessary for operations during the period when power is not typically generated, then you must define specifically why that is the case and provide an estimate of minimum flows as compared to historic flows during corresponding months of 2000-2005, for periods when power is not typically generated.

PG&E Response:

Diablo Canyon Power Plant (DCPP) is a base loaded nuclear electric generation facility. As a base load facility, DCPP Units 1 and 2 generally operate at 100% capacity unless shutdown for refueling outages, or curtailed for infrequent planned or emergent maintenance activities. Reactor refueling outages occur approximately every 19-21 months for each unit. Unit outages are staggered such that one unit will be in full power operations while the other unit is being refueled.

DCPP's aggregate once-through cooling system is comprised of 4 single speed (non-variable speed) main circulating water pumps (CWPs) and 4 single speed auxiliary saltwater system (ASW) pumps. The main steam condenser system for each unit is serviced by two CWPs, each with a rated capacity of 433,500 gallons per minute (gpm) at 96.5-ft of head pressure. Plant emergency core cooling systems and spent fuel cooling systems are served by the ASW pumps with rated capacities of 11,000 gpm at 52 psig. At least one ASW pump and associated cooling water train must remain in operation for each unit including refueling outage periods. The ASW is a critical nuclear safety system providing cooling to the unit spent fuel pools and safe shutdown equipment, and therefore must be in operation at any given time for each unit including all periods in which unit electrical generation has ceased, even for extended periods.

Per plant design and operations basis, at least one CWP must be in operation for each unit at electrical generation loads of >0 to 56%, and two CWPs at generation loads >56%. The large circulating pumps also require a start-up and stabilization period before they are determined fully operable (dependably available). This period is approximately 6-hours at a minimum, and may be longer if system anomalies or non-routine equipment operability verifications are required. Due to the nature of the installed plant pumping equipment, it is impractical to stop a CWP to effect cooling flow reductions for short power curtailments that may be at <56% unit electrical generation capacity as pump restart and stabilization requirements would negate any actual pump stop time.

During restart from refueling outages, or during recovery from infrequent unplanned unit shutdowns during a fuel cycle, one CWP must be operated to support plant secondary systems, and facilitate critical systems maintenance and operational checks prior to reactor start-up, and subsequent unit electrical generation output to the grid. A single CWP must also be operated for a minimum of 96-120 hours (4-5 days) during restart from a refueling outage, and may be required to operate for a longer period before electrical generation resumes, if critical sequential maintenance and operational activities are delayed due to emergent plant equipment or operational related issues. During infrequent emergent planned or forced outages, at least one circulator must also remain in operation while the nuclear unit is in hot standby, and not generating electrical power to the grid.

Each CWP requires approximately 9.7 Megawatts (MW) electric to operate, a substantial auxiliary power burden and similar station net electrical power output reduction if a pump is operated for significant periods when cooling flow is not necessary. Notably therefore, there is a disincentive for the station to maintain CWPs in operation unless required for power generation, or in support of critical maintenance and operations activities.

Diablo Canyon Power Plant operationally only ceases or curtails unit main circulator intake flows during planned reactor refueling outages, significant unplanned outages in which the nuclear plant systems are cooled below 350° Fahrenheit for an extended period, or planned curtailments at or below 56% electric power capacity that are specifically implemented to perform mid-cycle (between refueling outage) maintenance or inspections of the seawater circulating system. This represents no change from current and historical plant operation practices for the base-loaded nuclear generation units.

Unit refueling outages for Diablo Canyon are scheduled as part of the long term maintenance plan for the station, and the schedule is provided and updated as necessary with the California Independent System Operator (ISO) for State electrical system load planning purposes.

Item 2:

If your facility has not achieved final compliance by October 1, 2015, or your final compliance date is later than October 1, 2015, you must, commencing on October 1, 2015, implement measures to mitigate the interim impingement and entrainment impacts resulting from the cooling water intake structure(s), and continuing up to and until the facility achieves final compliance with the requirements of the Policy. If you do not plan to achieve final compliance by October 1, 2015, you must submit, no later than April 1, 2011, the specific measures that will be undertaken to comply with this additional requirement. The options you may choose from include:

- a. A demonstration that existing mitigation efforts, including any projects that are required by state or federal permits as of October 1, 2010, compensate for the interim impingement and entrainment impacts; or
- b. A demonstration that the interim impacts will be compensated for by providing funding to the California Coastal Conservancy, which will work with the California Ocean Protection Council to fund an appropriate mitigation project. It is the preference of the State Water Board that this option be selected; or
- c. A proposal for the development and implementation of a mitigation project for the facility, which would compensate for the interim impingement and entrainment impacts. Included in this proposal must be a description of how the habitat production foregone method, or a comparable alternate method, is to be used to determine the habitat and area, based on replacement of the annual entrainment, for funding the mitigation project.

PG&E Response:

To comply with any interim mitigation required under section 2.C.(3) of the SWRCB policy, PG&E selects option (b) -- funding provided to the California Coastal Conservancy to fund mitigation projects. PG&E will work with the SWRCB staff to determine the appropriate level of funding required by the policy.