

**DRAFT DETERMINATION TO APPROVE MITIGATION MEASURES
FOR THE WATER QUALITY CONTROL POLICY ON THE USE OF
COASTAL AND ESTUARINE WATERS FOR POWER PLANT COOLING:**

**DIABLO CANYON NUCLEAR POWER PLANT
OCTOBER 2016 THROUGH SEPTEMBER 2017**

Interim Mitigation Requirements and Determinations

The State Water Resources Control Board's (State Water Board) Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-Through Cooling [OTC] Policy) requires owners or operators of existing power plants to implement measures to mitigate interim impingement and entrainment impacts resulting from their cooling water intake structures. The interim mitigation period commenced on October 1, 2015, and continues up to and until owners or operators achieve final compliance with the OTC Policy.

The State Water Board approved Diablo Canyon Nuclear Power Plant's (Diablo Canyon Plant) request to comply with the interim mitigation measures described in Section 2.C(3)(b) of the OTC Policy in the Final Determination¹ for the October 1, 2015, to September 30, 2016, interim mitigation period (2015-2016 Final Determination). The 2015-2016 Final Determination also included the interim mitigation payment for the period of October 2015 through September 2016, comprised of an entrainment fee, an impingement fee, and a management and monitoring fee, consistent with Resolution No. 2015-0057² and the recommendations in the Expert Review Panel's Final Report³.

The State Water Board calculated Diablo Canyon Plant's interim mitigation payment for October 1, 2016, through September 30, 2017, consistent with the methods and calculations applied in the 2015-2016 Final Determination.

Interim Mitigation Payment Calculation for Diablo Canyon Nuclear Power Plant

Entrainment Payment Calculation

In their April 26, 2018 email⁴, Pacific Gas and Electric Company (PG&E) stated that \$3.12 per

¹ State Water Board 2015-2016 Final Determination for Diablo Canyon Plant.

<https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/diablocanyon_1516mitigation_letter.pdf>

² State Water Board Resolution No. 2015-0057.

<https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2015/rs2015_0057.pdf>

³ Final Report from the Expert Review Panel.

<https://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/docs/erp_intake052512.pdf>

⁴ Email from Mark Krausse, PG&E, to Katherine Faick, State Water Board on April 16, 2018.

<https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/powerplants/diablo_canyon/docs/diablo_1617inforequest_resp.pdf>

million gallons (MG) should be the starting point for determining the facility-specific cost of entrainment for Diablo Canyon Plant. However, in the 2015-2016 Final Determination, the State Water Board approved the facility-specific entrainment cost of \$3.88/MG for Diablo Canyon Plant for the interim mitigation period of October 1, 2015, through September 30, 2016. The \$3.88/MG is an average of entrainment fees that was calculated from two past entrainment studies (1996 to 1999 and 2008 to 2009) using the habitat production foregone method, and adjusted to more accurately reflect current estimates for reef construction costs.

To calculate the interim mitigation payment to offset entrainment impacts for October 2016 through September 2017, the State Water Board used the facility-specific cost of entrainment for Diablo Canyon Plant approved in the 2015-2016 Final Determination. Consistent with Resolution No. 2015-0057 and the Expert Review Panel's Final Report, the State Water Board used a three percent escalator to update the facility-specific cost of entrainment from the 2015-2016 Final Determination to 2017 dollars to account for inflation. The resulting entrainment cost for October 2016 through September 2017 increased from \$3.88/MG to \$4.00/MG:

$$(\$3.88/MG \times 0.03) + \$3.88/MG = \$4.00/MG$$

In their April 26, 2018 email, PG&E provided the intake volume for Diablo Canyon Plant from October 2016 to September 2017, totaling 830,971 MG. The State Water Board verified intake volume with the data submitted in the National Pollution Discharge Elimination System permit monitoring reports for Diablo Canyon Plant.

To calculate the entrainment payment, the State Water Board multiplied the intake volume by the updated cost of entrainment:

$$\$4.00/MG \times 830,971 MG = \$3,323,884.00$$

Impingement Payment Calculation

In their April 26, 2018, email, PG&E confirmed use of the established annual average of pounds of fish impinged stated in the *Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling - Final Substitute Environmental Document*⁵ for calculating the impingement payment, which is 710 pounds. The State Water Board calculated the impingement payment for Diablo Canyon Plant using 710 pounds of impinged fish multiplied by the average indirect economic value of the fisheries as determined in the Expert Review Panel's Final Report of \$0.80 per pound:

$$\$0.80/pound \times 710pounds = \$568.00$$

⁵ State Water Resources Control Board, *Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling – Final Substitute Environmental Document*, May 4, 2010. Table 3, Page 34.

<https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/cwa316may2010/sed_final.pdf>

Management and Monitoring Payment Calculation

The State Water Board calculated the management and monitoring fee by taking twenty percent of the sum of the entrainment and impingement payments:

$$0.20 \times (\$3,323,884.00 + \$568.00) = \$664,890.40$$

State Water Board's Draft Determination for Diablo Canyon Plant

Based on the sum of the entrainment, impingement, and management and monitoring payment calculations, the total payment is \$3,989,342.40 to fulfill the interim mitigation obligation for PG&E's Diablo Canyon Plant for the operating period of October 1, 2016, to September 30, 2017.

$$\$3,323,884.00 + \$568.00 + \$664,890.40 = \$3,989,342.40$$