

**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 1, 2017 THROUGH SEPTEMBER 30, 2018**

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 (also known as the Once-Through Cooling or 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) continued 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, 2016 to September 30, 2017 interim mitigation period (2016-2017 Final Determination). Consistent with Resolution No. 2015-0057² and the recommendations in the Expert Review Panel's Final Report³, the interim mitigation payment is comprised of an entrainment payment, an impingement payment, and a management and monitoring payment.

In the sections below, the State Water Board has calculated Diablo Canyon Plant's interim mitigation payment for October 1, 2017, through September 30, 2018 (also known as the 2017-2018 determination period). This calculation is consistent with the methods and calculations applied in the 2016-2017 Final Determination.

Interim Mitigation Payment Calculation for Diablo Canyon Nuclear Power Plant

Entrainment Payment Calculation

In its January 15, 2019 email⁴, Pacific Gas and Electric Company (PG&E) stated that \$3.12 per

¹ State Water Board 2016-2017 Final Determination for Diablo Canyon Plant.

<https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/interim_mitigation/fdi1617_diablo.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 Julie Johnson, State Water Board on January 15, 2019.

million gallons (MG) should be the starting point for determining the facility-specific cost of entrainment for Diablo Canyon Plant. However, in the Final Determination⁵ for the October 1, 2015, to September 30, 2016, interim mitigation period, the State Water Board approved the facility-specific average adjusted entrainment cost of \$3.88/MG for Diablo Canyon Plant. 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. Therefore, \$3.88/MG is the starting site-specific entrainment cost for Diablo Canyon Plant for entrainment payment calculations, the first of which was calculated for the October 1, 2015, through September 30, 2016, interim mitigation period. Each year going forward from the first interim mitigation period, a three percent escalator is applied as described below to account for inflation.

To calculate the portion of the interim mitigation payment to offset entrainment impacts for October 1, 2017, through September 30, 2018, the State Water Board used the facility-specific cost of entrainment for Diablo Canyon Plant approved in the 2016-2017 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 2016-2017 Final Determination to 2018 dollars to account for inflation. The resulting entrainment cost for October 1, 2017, through September 30, 2018, increased from \$4.00/MG to \$4.12/MG:

$$(\$4.00/MG \times 0.03) + \$4.00/MG = \$4.12/MG$$

In its January 15, 2019 email, PG&E provided the intake volume for Diablo Canyon Plant for the 2017-2018 determination period of 856,808 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:

$$\$4.12/MG \times 856,808 MG = \$3,530,048.96$$

Impingement Payment Calculation

In its January 15, 2019 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*⁶ for

<https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/cwa_april/dc_im1718.pdf>

⁵ 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>

⁶ State Water Resources Control Board, *Water Quality Control Policy on the Use of Coastal and Estuarine Waters 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:

$$\$0.80/\text{pound} \times 710 \text{ pounds} = \$568.00$$

Management and Monitoring Payment Calculation

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

$$0.20 \times (\$3,530,048.96 + \$568.00) = \$706,123.39$$

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 to fulfill the interim mitigation obligation for PG&E's Diablo Canyon Plant for the interim mitigation period of October 1, 2017, to September 30, 2018, is \$4,236,740.35.

$$\$3,530,048.96 + \$568.00 + \$706,123.39 = \$4,236,740.35$$