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March 23, 2018

Karen L. Larsen
Director
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

RE: Once-Through Cooling Interim Mitigation Requirements for the Huntington Beach Generating Station

Dear Ms. Larsen,

This letter is in response to your January 26, 2018 correspondence requesting information for determining interim mitigation fees for Once-Through Cooling (OTC) impingement and entrainment impacts at the Huntington Beach Generating Station (AES-HB). As stated in your letter, you requested the following information:

1. Monthly and total intake volume for October 1, 2016, through September 30, 2017; and
2. Actual annual impingement data in total pounds from October 1, 2016 through September 30, 2017, or newly available impingement data since October 1, 2016.

Our responses to your data request are detailed below:

1. Monthly and total intake volume for October 1, 2016 through September 30, 2017

Intake volumes for AES-HB are listed in Table 1 below:

Table 1. Total monthly seawater intake volumes by month for AES Huntington Beach Generating Station in million gallons per day (MGPD), and total intake volume for the mitigation period covered, October 1, 2016 – September 30, 2017, in million gallons.

| Month | Total Intake Volume Units 1 & 2 (MGD) |
|-------------|--|
| October-16 | 3606.03 |
| November-16 | 3165.84 |

| Month | Total Intake Volume Units 1 & 2 (MGD) |
|--------------|--|
| December-16 | 2726.64 |
| January-17 | 1985.92 |
| February-17 | 1928.26 |
| March-17 | 2030.85 |
| April-17 | 2006.82 |
| May-17 | 3523.32 |
| June-17 | 5290.44 |
| July-17 | 7935.16 |
| August-17 | 8247.20 |
| September-17 | 5721.14 |
| Total | 48167.618 |

There were no days during the period October 2016 through September 2017 when intake volume data was not available. Intake pumps were operational during the entire period. At least one circulating OTC pump was required for either power generation or critical system maintenance at all times at AES-HB.

2. Actual annual impingement data in total pounds of fishes impinged

Actual annual fish impingement data is not available for AES-HB for the mitigation period referenced. Fish impingement monitoring was discontinued with the renewal and adoption of National Pollutant Discharge Elimination System permit number CA0001163, Order Number R8-2014-0076. In accordance with the renewed permit, beginning January of 2015, fish impingement was no longer monitored at AES-HB. The calculation of mitigation fees provided here is based upon an estimation drawing from the final three years of impingement data that had intake flow regimes approximately similar to the flows between October 2016 and September 2017.

The method utilized for estimating total fish impingement for the mitigation period is derived from 2012- 2014 monthly impingement surveys performed at AES-HB, daily flow data, cycle flow during impingement surveys, calculated impingement rates, and heat treatment data.

The estimated biomass impinged during normal operations for the mitigation period was calculated by extrapolating monthly impingement survey biomass data from 2012-2014 over the entire month using daily flow data to obtain a monthly impingement rate. For each respective month, the impingement rate was averaged for all three years; the calculated average impingement rate was multiplied by the total flow each month in 2016/17 in millions of gallons to give estimated monthly biomass impingement for each individual month of the mitigation period. Calculations were done monthly to account for seasonal variability in both fish impingement potential and plant operational loading. The sum of monthly biomass estimates for October 2016 through September 2017 totals 17.8 pounds of fish impinged during normal operations at AES-HB.

Heat treatments are isolated impingement mortality events that occur at various times throughout a given year. There were two heat treatments performed during the mitigation period, November 11, 2016, June 18, 2017. The estimated biomass impinged was calculated irrespective of flow volume because heat treatment flow dynamics are relatively similar among events. Twelve heat treatments were conducted between 2012 and 2014, the average biomass impinged was taken across those three years and directly summed for the two months in 2016/17 that heat treatments were performed. Overall, the total estimated biomass of impingement for AES-HB between October 2016 and September 2017 is summarized in Table 2.

Table 2. Summary of Estimated Fish Impingement Biomass in Standard Pounds for October 2016 through September 2017.

| | |
|-------------------------------------|-------|
| Normal Operation | 17.8 |
| Heat Treatment | 187.5 |
| Total Estimated Biomass Impingement | 205.3 |

If you have questions regarding this submittal, please contact Coury McKinlay, AES Southland Environmental Manager at (562) 493-7863 or coury.mckinlay@aes.com.

Sincerely



Weikko Wirta
AES Southland Operations Director