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November 18, 2016

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

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

Dear Ms. Larsen,

This letter is in response to your September 26, 2016 correspondence requesting information for determining interim mitigation fees for Once-Through Cooling (OTC) impingement and entrainment impacts at the AES Huntington Beach Generating Station (AES-HB). As stated in your letter, you requested the following information:

1. Valid entrainment data, if available;
2. Monthly and total intake volume for October 1, 2015 through September 30, 2016;
3. If considering installing an intake flow measuring device for measuring future intakes, feasibility and timeframe needed for completion; and
4. Actual annual impingement data in total pounds of fishes impinged from October 1, 2015 through September 30, 2016, or the annual total fishes impinged on previous years.

Our responses to your data request are detailed below:

**1. Valid entrainment data, if available**

There are no valid site-specific entrainment data available for AES-RB

**2. Monthly and total intake volume for October 1, 2015 through September 30, 2016**

Intake volumes for AES-RB are listed in the table below:

Month	Intake Volume <sup>1</sup> Units 5 & 6 (millions of gallons)	Intake Volume <sup>2</sup> Units 7 & 8 (millions of gallons)	Intake Volume Total AES-RB (millions of gallons)
October 2015	2,192.03	8,430.39	10,622.42
November 2015	2,081.03	2,629.33	4,710.36
December 2015	1,044.07	2,892.68	3,936.75
January 2016	594.07	675.12	1,269.19
February 2016	472.64	0.00	472.64
March 2016	1,200.13	13.34	1,213.47
April 2016	646.02	0.00	646.02
May 2016	716.39	13.57	729.96
June 2016	2,088.90	3,317.02	5,405.92
July 2016	2,121.21	4,168.10	6,289.31
August 2016	1,451.66	4,441.49	5,893.15
September 2016	2,380.95	8,241.57	10,622.52
<b>Total</b>	<b>16,989.09</b>	<b>34,822.62</b>	<b>51,811.71</b>

There were no days during the period October 2015 through September 2016 when intake volume data was not available. Intake pumps were operational during the entire period. Intake flow was zero on only one day during the 12 month period when OTC water was not required for either power generation or critical system maintenance. This day was March 2, 2016.

**3. If considering installing an intake flow measuring device for measuring future intakes, feasibility and timeframe needed for completion**

AES-RB is not considering installing any new equipment for measuring future intakes. It should be noted that flow measurement of OTC intake or discharge is accomplished in the same manner. Both flow intake and discharge is calculated by multiplying the OTC circulation pump operating hours by the pump flow rate. All AES Southland OTC circulation pumps are fitted with an integrator to electronically record operating run time. The run time is multiplied by the pump flow rate which provides both the intake and discharge volume.

**4. Actual annual impingement data in total pounds of fishes impinged**

Between October 2011 and September 2016, normal operation fish impingement was monitored monthly at Redondo Beach. No heat treatments at AES-RB have been conducted since 2011. The monthly impingement data were used to derive a survey-specific impingement rate, or pounds of fish impinged per volume of water, using the actual cooling water volume circulated during the survey. These monthly rates were averaged across all years to derive the average monthly rates. The actual cooling water flow data for the period from 1 October 2015 to 30 September 2016 provided by AES Redondo Beach were used to derive the final impingement estimates. Each monthly mean impingement rate was multiplied by the total monthly volume for the period from October 2015-September 2016 to derive the estimated monthly impingement. The sum of these monthly estimates was the total normal

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<sup>1</sup> Discharges to EFF-001

<sup>2</sup> Discharges to EFF-002

operation impingement. Using the method described above, the resulting fish impingement biomass from October 2015-September 2016 are:

Units 5 & 6 Intake (to discharge EFF-001) = 10.2 lbs  
Units 7 & 8 Intake (to discharge EFF-002) = 176.7 lbs  
AES-RB Station Total Estimate = 186.9 lbs

If you have questions regarding this submittal, please contact Stephen O’Kane, AES-Southland, LLC at (562) 493-7840 or [Stephen.Okane@aes.com](mailto:Stephen.Okane@aes.com).

Sincerely



Jennifer Didlo  
President  
AES-Southland