

DOCKETED

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AES Huntington Beach, LLC
21730 Newland Street
Huntington Beach, CA 92646
tel 562 493 7891
fax 562 493 7320

December 8, 2016

Mr. Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

**Subject: AES Huntington Beach, LLC (Facility ID 115389)
Draft Facility Permit to Operate and Final Determination of Compliance Comments**

Dear Mr. Perri:

AES Huntington Beach, LLC (AES) appreciates the efforts by the South Coast Air Quality Management District (SCAQMD) in preparing the Huntington Beach Energy Project's (HBEP) Final Determination of Compliance (FDOC). AES agrees with the conclusions derived by the SCAQMD and provides the following minor comments on the draft Facility Permit to Operate and FDOC for your consideration.

Draft Facility Permit to Operate Comments:

Page 2, Gas Turbine, Unit No. 1 – The carbon monoxide (CO) emissions for Rule 1703 should be 1.5 parts per million by volume (ppmv), consistent with Page 2 of the FDOC.

Page 4, Gas Turbine, Unit No. 2 – The CO emissions for Rule 1703 should be 1.5 ppmv, consistent with Page 3 of the FDOC.

Page 4, Gas Turbine, Unit No. 2 – The particulate matter (PM) emissions for Rule 409 should be 0.1 grains per standard cubic foot (grains/scf), consistent with Page 4 of the FDOC.

Page 9, CO Oxidation Catalyst, Serving Gas Turbine No. 4 – AES recommends that the height and diameter be deleted from the equipment description, for consistency with the FDOC and the similar listing on Page 7 for the CO Oxidation Catalyst serving Gas Turbine No. 3.

Page 10, Boiler – AES recommends that the following language be added to the RECLAIM Source Type/Monitoring Unit column for the auxiliary boiler, consistent with Page 6 of the FDOC:

NOX: MAJOR SOURCE

SOX: PROCESS UNIT

Page 17, Condition F52.1 – To allow for unexpected delays in the construction and commissioning schedule without requiring submittal of a permit modification application, AES suggests revising the 3rd paragraph on Page 17 as proposed below:

Within 30 calendar days of actual shutdown, or **within 90 days after the first fire of either combined cycle turbine generator unit** by no later than November 1, 2019, AES shall provide SCAQMD with a notarized statement that HB Beach Boiler 1 and RB Boiler 7 are permanently

shutdown and that any re start or operation of the units shall require new Permits to Construct and be subject to all requirements of non-attainment new source review and the prevention of significant deterioration program.

Pages 27 and 28, Condition C1.7 – Condition C1.7 should be revised as follows, for consistency with Page 77 of the FDOC:

C1.7 The operator shall limit the number of start ups to no more than 62 in any one calendar month.

The number of cold start ups shall not exceed 15 per month, the number of ~~warm start ups shall not exceed 12 per month, and the number of hot start ups shall not exceed 35 per month~~ **non-cold start ups shall not exceed 47 per month**. Additionally, the number of cold start ups shall not exceed 80 per year, **and** the number of ~~warm start ups shall not exceed 88 per year, and the number of hot start ups shall not exceed 332 per year~~ **non-cold start ups shall not exceed 420 per year**.

For the purposes of this condition: A cold start up is defined as a start up which occurs after the steam turbine has been shutdown for 48 hours or more. A cold start up shall not exceed 60 minutes. Emissions during the 60 minutes that includes a cold start up shall not exceed the following: NOx – 61 lbs., CO – 325 lbs., VOC – 36 lbs.

A ~~warm~~ **non-cold** start up is defined as a start up which occurs after the steam turbine has been shutdown for ~~less than 9~~ **less than 9**–48 hours. A ~~warm~~ **non-cold** start up shall not exceed 30 minutes. Emissions during the 30 minutes that includes a ~~warm~~ **non-cold** start up shall not exceed the following: NOx – 17 lbs., CO – 137 lbs., VOC – 25 lbs.

The beginning of a start up occurs at initial fire in the combustor and the end of start up occurs when the BACT levels are achieved. If during start up the process is aborted the process will count as one start up.

The operator shall maintain records, in a manner approved by the SCAQMD to demonstrate compliance with this condition.

Page 39, Condition D29.5 – AES suggests revising the last paragraph on Page 39 as follows, for consistency with Page 79 of the FDOC:

c) Analysis of Summa canisters per ~~unmodified EPA Method TO-12 (with pre-concentration)~~ or the canister analysis portion of AQMD Method 25.3 with a minimum detection limit of 0.3 ppmv or less and reported to two significant figures. The temperature of the Summa canisters when extracting the samples for analysis shall not be below 70 F.

Page 42, Condition D29.7 – AES suggests revising the 7th paragraph on Page 42 as follows, for consistency with Page 81 of the FDOC:

c) Analysis of Summa canisters per ~~unmodified EPA Method TO-12 (with pre-concentration)~~ or the canister analysis portion of AQMD Method 25.3 with a minimum detection limit of 0.3 ppmv or less and reported to two significant figures. The temperature of the Summa canisters when extracting the samples for analysis shall not be below 70 F.

Page 43, Condition D29.8 – For consistency with Page 107 of the FDOC, the table in Condition D29.8 should be revised as follows:

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NOX emissions	District method 100.1	1 hour	Outlet of the SCR serving this equipment
CO emissions	District method 100.1	1 hour	Outlet of the SCR serving this equipment
<u>VOC emissions</u>	<u>District method 25.3</u>	<u>1 hour</u>	<u>Outlet of the SCR serving this equipment</u>
PM ₁₀ emissions	District method 5.1	District-approved averaging time	Outlet of the SCR serving this equipment
NH3 emissions	District method 207.1 and 5.3 or EPA method 17	1 hour	Outlet of the SCR serving this equipment
PM2.5	EPA Method 201A and 202	District-approved averaging time	Outlet of the SCR serving this equipment

Final Determination of Compliance Comments:

Page 5, Gas Turbine, Unit No. 3 – Condition E448.1 should be removed from this table, consistent with the simple-cycle turbine conditions provided beginning on Page 89.

Page 6, Gas Turbine, Unit No. 4 – Condition E448.1 should be removed from this table, consistent with the simple-cycle turbine conditions provided beginning on Page 89.

Page 63, Thermal Efficiency – The HBEP heat rates and greenhouse gas (GHG) performance presented in the table need to be updated. Based on Appendix 5.1D, Table 3-1 of the revised HBEP Petition to Amend (PTA) (Transaction Number [TN] #210969), the combined-cycle and simple-cycle heat rates should be 7,015 British thermal units per kilowatt-hour (Btu/kWh) and 10,072 Btu/kWh, respectively; the GHG performance should be 0.381 metric tons carbon dioxide per megawatt-hour (MTCO₂/MWh); and the CO₂ emissions cited in note 1 should be 1,782,131 metric tons per year.

Page 74, Condition F52.1 – To allow for unexpected delays in the construction and commissioning schedule without requiring submittal of a permit modification application, AES suggests revising the 2nd paragraph on Page 74 as proposed below:

Within 30 calendar days of actual shutdown, or **within 90 days after the first fire of either combined cycle turbine generator unit** ~~by no later than November 1, 2019~~, AES shall provide SCAQMD with a notarized statement that HB Beach Boiler 1 and RB Boiler 7 are permanently shutdown and that any re start or operation of the units shall require new Permits to Construct and be subject to all requirements of non-attainment new source review and the prevention of significant deterioration program.

Page 257 – SCAQMD’s response to comment No. 7 consistently refers to the HBEP simple-cycle turbine generator (SCTG) particulate matter with aerodynamic diameter less than or equal to 10 microns (PM₁₀) emission rate as 6.23 pounds per hour (lb/hr). This is inconsistent with the emission rate proposed by AES (6.24 lb/hr), which is correctly used throughout the FDOC analysis. Please resolve this discrepancy.

Pages 267 and 268 – SCAQMD incorrectly references the Final Staff Assessment (FSA) for the original project as TN #202450; the correct citation is TN #202405.

Mr. Chris Perri
December 8, 2016
Page 4

Page 270 – In the 2nd paragraph on this page, SCAQMD’s response to comment No. 12 states that “Condition D29.2 requires the initial source testing for combined-cycle turbines to be performed at 45, 75, and 100 percent of maximum load, and for the simple-cycle turbines at 50, 75, and 100 percent of maximum load, because emission rates may vary with load.” There is no Condition D29.2 proposed in the FDOC. Rather, source testing loads are addressed in Condition D29.5, as follows: “The test shall be conducted when this equipment is operating at 3 load conditions, including within 5 percent of maximum, within 5 percent of minimum, and one intermediate load.” Please resolve this discrepancy.

Should you have any questions regarding the comments provided, please do not hesitate to call me at 562-493-7840. We appreciate your attention to these comments.

Sincerely,

A handwritten signature in blue ink that reads "S O'Kane". The signature is stylized and cursive.

Stephen O’Kane
Manager
AES Huntington Beach, LLC

cc: Melissa Foster/Stoel Rives
Jerry Salamy/CH2M
John Heiser/CEC