DOCKETED

Docket Number:	16-AFC-01
Project Title:	Stanton Energy Reliability Center
TN #:	215794
Document Title:	Permit Applications for the Stanton Electric Reliability Center
Description:	Letter
Filer:	Marichka Haws
Organization:	South Coast Air Quality Management District
Submitter Role:	Public Agency
Submission Date:	2/7/2017 10:11:28 AM
Docketed Date:	2/7/2017

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

February 2, 2017

Kara Miles
President
Stanton Energy Reliability Center, LLC
650 Bercut Drive, Suite A
Sacramento, CA 95811

Subject: Permit Applications for the Stanton Electric Reliability Center (16-AFC-01), located at 10711 Dale Avenue, Stanton, CA 90680 (Facility ID# 183501)

Dear Ms. Miles:

The South Coast Air Quality Management District (AQMD) has received your letter dated December 29, 2016 in response to the information requested in our letter dated December 2, 2016 regarding the permit applications (Application) for the Stanton Energy Reliability Center (SERC) received on November 2, 2016. The AQMD staff has reviewed your December 29, 2016 letter and other information available to AQMD and determined that your applications are not complete and additional information is still needed. Our comments are provided in the same sequence as the comments presented in our original letter. We have added questions 9 through 15 to allow our evaluation of the project.

5. BACT Level for CO and VOC

c. The responses to questions 5.a. and 5.b. indicate Andrew Lee agreed the proposed limits of 4 ppm for CO and 1 ppm for VOC are acceptable based on the recently adopted SCAQMD BACT determinations for minor sources. As clarification, Andrew Lee explained the proposed BACT limits are required to be equal to or lower than the limits presented in Part D: BACT Guidelines for Non-Major Polluting Facilities, but did not approve any specific limit.

i. Question no. 11 below requests guarantees for the BACT emissions levels. Please ensure the guarantee provided for the VOC emission rate identifies the source test method on which the guarantee for 1 ppm is based.

ii. SCAQMD requires modified District Method 25.3 for VOC testing. The SCAQMD Source Test engineers collaborated with source test companies located in the SCAQMD jurisdiction over an extended period to carefully develop modified District Method 25.3 to measure VOC emissions rates in the lower range encompassing 2 ppm, which is the current BACT level set by SCAQMD for similar sources.

If the guarantee for 1 ppm VOC is not based on modified District Method 25.3, please discuss your plan of action in the event the SERC simple-cycle turbines are unable to meet the 1 ppm VOC limit using modified District Method 25.3.

Additionally, please note that the District may require additional monitoring to ascertain that BACT levels lower than 2 ppm are consistently met over the life of the catalyst.

7. Toxic Emissions Factors

c. The response to 7.a. and revised *Table 5.1A-4—Calculation of Hazardous and Toxic Pollutant Emissions from Combustion Turbines* indicate that the emission factors have been revised to those specified in the SCAQMD's letter of December 2, 2016. However, the applicant added a control efficiency factor of 80% for 1,3-butadiene, ethylbenzene, hexane, naphthalene, propylene, propylene oxide, toluene, and xylene, which was not specified by the SCAQMD.

The 80% control efficiency factor may not be used unless the CO catalyst manufacturer provides a guarantee for an 80% control efficiency for the organic toxic compounds listed above. If such a guarantee is not received, please revise the toxic emissions calculations by removing the 80% control efficiency factor for the above referenced eight toxic compounds.

d. Please revise the proposed health risk assessment to incorporate the removal of the 80% control efficiency factor for the above referenced eight toxic compounds, if a guarantee for 80% control efficiency is not received from the CO catalyst manufacturer.

9. Annual Facility-Wide Emissions Limit

On p. 5.1-2, the Application states: "For purposes of permit limits, we propose to establish a plant-wide applicability limit (PAL or bubble) based on facility-wide emission limits and fuel use." On p. 5.1-6, the Application states: "Thus, SERC proposes that the facility-wide limits be based on total short-term and annual emissions rather than operational hours... SERC would propose and accept hourly, daily and annual emission limits for this pollutant [NOx], but would propose that the permit would not contain any limit on the number of hours of operation as the established emission limits would be continuously monitored. This way, the facility operational profiles would be solely based on PTE rather than hours which would allow for a flexible response to changing power market conditions. Thus, the short-term and annual emissions limits would establish the facility PTE rather than the individual operational profiles. This type of emissions and compliance strategy is not new, and has been implemented on numerous projects the to which CEC has issued Licenses, as well as District permits."

a. The SCAQMD New Source Review (NSR) policy does not allow bubbling or sharing of emissions among equipment that are not integrated, such as the two proposed individual simple-cycle turbines. This is consistent with EPA policy. Please identify SCAQMD permits for which the emissions limits for two or more simple-cycle turbines are combined to form a single limit.

b. As clarification, maximum monthly emission limits for each equipment are required by Rule 1313(g). Annual emission limits for each equipment are required by Rule 1304 and other NSR rules. Compliance with the monthly and annual emission limits are verified by the use of emission factors for pollutants that are not monitored by CEMS.

Please confirm that, without a bubbling of emission limits for the two proposed turbines, the maximum monthly and annual emissions for each turbine, based on the revised proposed monthly and annual schedules for each turbine provided in your December 29, 2016 letter, will be sufficient for the operation of the facility.

10. Commissioning

a. In your December 29, 2016 letter, response 6.a.i.aa.(1) states: "The anticipated schedule for commissioning is that all 200 hours of commissioning activities (6 steps for each turbine) will take place during a 30 day month. The commissioning activities may be slightly extended beyond 100 hours for the first turbine undergoing this process with any overage being taken from the second turbine such that no more than 200 hours total will be used during the overall phase. Thus, the 200 hour commissioning limit would be applied facility wide rather than split equally between the two turbines."

As explained above, the NSR policy does not allow for bubbling of emissions for simple-cycle turbines. Please confirm that the 100 hours and associated commissioning emissions will be sufficient for each turbine.

b. Pg. 5.1-10 states: "Prior to the commencement of commissioning activities, SERC will install and operate CEMS and associated digital acquisition system (DAS) for each LM6000 PC. The CEMS and DAS systems will allow NOx and CO to be tracked for compliance with the proposed limits, and will use actual emissions in place of parametric (fuel use and emission factors) monitoring during commissioning."

The NOx and CO CEMS data may not be used for mass emissions reporting until all certification testing has been successfully completed for Acid Rain certification and Rule 218 certification, respectively. Please explain how the two CEMS will be successfully tested for certification prior to the commencement of commissioning activities.

11. Guarantees

a.. *Table 5.1.5.2-Proposed Best Available Control Technology* on p. 5.1-16 and *Appendix 5.1F—Evaluation of Best Available Control Technology* provide BACT limits proposed by the applicant, but emission guarantees have not been provided.

Please forward a copy of the guarantees/warranties for the BACT emission rates for NOx, CO, VOC, PM_{10}, $PM_{2.5}$, and NH_3.

b. For the $PM_{10}/PM_{2.5}$ emission rate, please break down the total particulate matter emission rate from the stack into the particulate emission rate from the turbine and the ammonium sulfate particulate emission rate formed in the SCR.

12. 40 CFR 60 Subpart TTTT—Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units, Thermal Efficiency Calculations

In *Appendix 5.1F—Evaluation of Best Available Control Technology,* on p. 5.1F-2, the Application states: "GHG BACT for the SERC combustion turbines is proposed as follows: … Maintain heat rates for simple cycle operations at levels equal to or less than 8651 Btu/kW-hr (LHV), based on the averages for 100 percent load for cold, ISO, and hot day performance data."

a. For GHG BACT compliance, the SCAQMD includes the following permit condition for simple-cycle turbines:

> "The operator shall calculate and record the CO2 emissions in pounds per net megawatt-hour based on a 12-month rolling average. The CO2 emissions from this equipment shall not exceed ___ tons per year per turbine on a 12-month rolling average basis. The calendar annual average CO2 emissions shall not exceed ___ lbs per gross megawatt-hours (inclusive of equipment degradation)."

i. Please provide a value for the pounds of CO_2 emissions per gross megawatt-hours (HHV), inclusive of equipment degradation.

ii. Please include the emissions calculations, including: (1) equations with variables identified, and (2) numerical values inserted for the variables.

13. SCR and CO Oxidation Catalyst Specifications and Guarantees

a. SCR

i. Form 400-E-5 provides the dimensions of each layer or module, and the number of layers or modules. As it is unclear how the catalyst is assembled, please provide overall dimensions for the permit equipment description.

ii. Form 400-E-5 omits the "Area Velocity." Please provide this information.

iii. Form 400-E-5 indicates the ammonia injection rate is 19.3 lb/hr. As there will be a condition that requires a flow meter and specifies a flow rate range, please provide the expected flow rate range for normal operation.

iv. Please provide the maximum allowable pressure drop across the catalyst.

v. Please provide the exhaust temperature range required at the inlet of the SCR for proper operation.

vi. Please provide a guarantee for the life of the catalyst.

b. CO Oxidation Catalyst

i. Please provide a guarantee for the life of the catalyst.

14. Fees

a. The letter dated October 31, 2016 submitted with the Application indicates the fee of $69,235.50, which includes expedited processing fees, is based on the online fee calculator. Please provide a copy of the online fee calculator as we are unable to duplicate this fee.

15. Rule 212--Standards for Approving Permits

a. The Form 400-A indicates there are no schools (K-12) within 1000 feet of the facility property line. Other facilities have found small nearby private schools that are not included on websites such as greatschools.org. Please confirm there are no schools within 1000 feet of the facility property line.

Please feel free to contact me at (909) 396-2643, or alee@aqmd.gov, or Ms. Vicky Lee, at (909) 396-2284, or vlee1@aqmd.gov for further information or clarification.

Sincerely,

Andrew Y. Lee, P.E.
Sr. Engineering Manager
Engineering and Permitting

AYL:BC:VL

cc: Laki Tisopulos
John Heiser, CEC (John.Heiser@energy.ca.gov)
Gregory Darvin (darvin@atmosphericdynamics.com)