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September 16, 2014

VIA E-FILING

El Segundo Energy Center Petition to Amend (00-AFC-14C)
Christine Stora, Project Manager
California Energy Commission
1516 Ninth Street, MS-2000
Sacramento, CA 95814-5512

Re: El Segundo Energy Center Petition to Amend (00-AFC-14C)
Project Owner's Comments on the Final Determination of Compliance

Dear Ms. Stora:

This morning, El Segundo Energy Center LLC's ("**ESEC LLC**") representative provided the enclosed letter to the South Coast Air Quality Management District (the "**Air District**"). This letter contains ESEC LLC's comments on the Air District's August 26, 2014 Final Determination of Compliance for the modified facility proposed in ESEC LLC's Petition to Amend the El Segundo Energy Center (00-AFC-14C). Please contact me or Tom Andrews at Sierra Research if there are questions.

Locke Lord LLP

By: 
John A. McKinsey
Attorneys for El Segundo Energy Center LLC

JAM:awph
Enclosure



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September 15, 2014

Andrew Lee
Engineering and Compliance
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 92865-4182

Subject: Proposed El Segundo Power Facility Modification Project – Comments on FDOC

Dear Mr. Lee:

On behalf of El Segundo Power, LLC (Applicant), we are providing comments on the Final Determination of Compliance (FDOC) for the El Segundo Power Facility Modification (ESPFM) Project, dated August 26, 2014. We greatly appreciate the effort that the District staff has expended in evaluating the application and preparing the FDOC.

The comments are listed in the order they appear in the FDOC. With regards to comments on draft permit conditions, while the identical issues may appear elsewhere in the FDOC, the comments focus on the draft Section H of the FDOC because that is the version of the draft permit generated by the SCAQMD permit computer system and will most closely resemble the final version of the permit.

CO₂ Emission Limits for New Gas Turbine Unit 9 (FDOC, Engineering Evaluation, Page 2 of 122)

The markup of the equipment/permit limit summary table shows new CO₂ limits for the new combined cycle Unit 9. While the CO₂ emission limit of 1,100 lbs/MWh_{net} associated with the baseload unit performance standard in CCR Title 20 may be applicable to the new combined cycle unit if the actual annual capacity factor of the unit is consistently greater than 60 percent, it is premature to include the CO₂ emission limit of 1,000 lbs/MWh_{gross} associated with the draft GHG NSPS. The new GHG NSPS is not yet finalized/adopted, and it would be premature at this point for the SCAQMD to develop a permit limit based on the draft language in this proposed regulation. Doing so will likely result in a permit limit that is inconsistent with the final regulation. Therefore, we request that this limit be removed from the permit until such time as a final rule has been promulgated.

NO_x and CO PPM Limits for Auxiliary Boiler (FDOC, Section H, Page 14, equipment/emission limit summary table)

As indicated in our April 20, 2014 letter to the SCAQMD where we submitted the Selective Catalytic Reduction (SCR) permit application for the auxiliary boiler, based on vendor supplied information, at very low boiler operating loads (from 10% load to just below 20% load) the expected CO emission level is 100 ppm rather than the 50 ppm that the boiler will achieve at higher loads. In addition, in this letter we requested exemptions from the CO and NO_x ppm levels during boiler startups (limited to 120 minutes per event), shutdowns (limited to 60 minutes per event), and during the commissioning period (80 operating hours). We request that these exemptions be addressed in new conditions added to the permit.

Facility-Wide PM_{2.5} Limit (FDOC, Section H, Page 17, Condition F2.1)

Draft Condition F2.1 is a facility-wide limit on the annual PM_{2.5} emissions for the El Segundo Power Facility. Therefore, the draft condition needs to be revised to include the emissions for existing Units 4, 5, and 7 and include the corresponding PM_{2.5} emission factors for these units (i.e., 4.66 lbs/mmscf from Condition A63.2 for Units 5 and 7, 5.16 lbs/mmscf¹ for Unit 4). In addition, we request that the PM_{2.5} emission factors for Unit 9 be corrected to 4.51 lbs/mmscf as listed in Condition A63.3, and the PM_{2.5} emission factor for the auxiliary boiler be corrected to 6.80 lbs/mmscf as listed in Condition A63.5. The requested changes are shown below:

...The operator shall not operate any of the ~~new~~ gas turbines #5, 7, 9, 11, 12, existing boiler #4, or the auxiliary boiler unless it demonstrates compliance with this limit.

The operator shall calculate the emissions by using the calendar monthly fuel use data and the following emission factors: PM_{2.5}: ~~4.09~~ 4.51 lb/mmscf for GE 7FA combined cycle gas turbine; 9.98 lb/mmscf for Trent 60 simple cycle gas turbines; ~~8.82~~ 6.80 lb/mmscf for auxiliary boiler; 4.66 lb/mmscf for gas turbines #5 and 7, and 5.16 lb/mmscf for existing boiler #4...

Monthly Emission Limits for Auxiliary Boiler (FDOC, Section H, Page 23, Condition A63.5)

Draft Condition A63.5 includes language regarding the use of a CO Continuous Emissions Monitoring System (CEMS) to track compliance with the monthly CO emission limit. Due to the small size of the auxiliary boiler (approximately 36 MMBtu/hr), it is not reasonable to require the installation of a CO CEMS on this unit. We request that the monthly CO emissions for the unit be tracked in the same manner that VOC, SO_x, and PM₁₀ emissions are being calculated by using monthly fuel use and emission factors. The requested changes are shown below.

¹ This PM_{2.5} emission factor for Unit 4 was discussed in a July 30, 2008 letter El Segundo Power to the SCAQMD.

...The operator shall calculate the emission limits by using the calendar monthly fuel use data and the following emission factors: VOC: 1.44 lb/mmescf, PM10: 6.80 lb/mmescf, SOx: 0.71lb/mmescf, CO: 22.66 lb/mmescf.

~~The operator shall calculate the emission limits for CO after the CO CEMS certification based upon readings from the SCAQMD certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated by using monthly fuel use data and the following factors: natural gas commissioning: 45.35 lb/mmescf, normal operation: 22.66 lb/mmescf...~~

Clarifications Regarding Startup Language and Exemption During Commissioning Period for New Gas Turbine Unit 9 (FDOC, Section H, Pages 28 to 29, Conditions A195.12, A195.13, and A195.14)

Draft Conditions A195.12, A195.13, and A195.14 include limits on the length of startups and shutdowns and a limit on the number of starts per year for Unit 9. As requested in our January 27, 2014 comment letter on the PDOC, we request that these conditions be revised to show clearly that the startup/shutdown duration limits and limit on the number of annual startups does not include the commissioning period. In addition, as requested in our comments on the PDOC and to be consistent with the language in FDOC Condition C1.7, we request that aborted startups/restarts be counted as a single startup event. The requested changes are shown below for Condition A195.12 (identical changes needed for Conditions A195.13, A195.14):

...The 2.0 PPMV NOX emission limit(s) is averaged over 1 hour, dry basis at 15 percent oxygen. This limit shall not apply to turbine commissioning, fast start-ups, traditional start-ups, and shutdown periods. The turbine commissioning period shall not exceed 800 hours. Following the commissioning period, Aa fast start-up shall not exceed 30 minutes. Following the commissioning period, Aa traditional start-up shall not exceed 60 minutes. Following the commissioning period, a Sshutdown time shall not exceed 30 minutes. Following the commissioning period, Fthe gas turbine shall be limited to a maximum of 200 total start-ups per year, and a maximum of 50 traditional start-ups per year...

If during start-up the process is aborted and the turbine is re-started, then the start-up and re-start is defined as "one start-up". In this case the start-up shall not exceed one hour.

Clarifications Regarding Startup Language and Exemption During Commissioning Period for New Gas Turbine Units 11 and 12 (FDOC, Section H, Pages 30 to 31, Conditions A195.15, A195.16, and A195.17)

Draft Conditions A195.15, A195.16, and A195.17 include limits on the length of startups and shutdowns and a limit on the number of starts per year for Units 11 and 12. As indicated in our January 27, 2014 comment letter on the PDOC, we request that these conditions be revised to show clearly that the startup/shutdown duration limits and limit on the number of annual startups do not include the commissioning period. In addition, as requested in our comments on the PDOC and to be consistent with the language in FDOC Condition C1.7, we request that aborted startups/restarts be counted as a single

startup event. The requested changes are shown below for Condition A195.15 (identical changes needed for Conditions A195.16, A195.17):

...The 2.5 PPMV NOX emission limit(s) is averaged over 1 hour, dry basis at 15 percent oxygen. This limit shall not apply to turbine commissioning, start-ups, and shutdown periods. The turbine commissioning period shall not exceed 206 hours. Following the commissioning period, a start-up shall not exceed 30 minutes. Following the commissioning period, a shutdown time shall not exceed 20 minutes. Following the commissioning period, the gas turbine shall be limited to a maximum of 480 total start-ups per year...

If during start-up the process is aborted and the turbine is re-started, then the start-up and re-start is defined as "one start-up". In this case the start-up shall not exceed one hour.

Clarifications Regarding Startup Language for New Gas Turbine Unit 9 (FDOC, Section H, Page 33, Condition C1.7)

As requested in our January 27, 2014 comment letter on the PDOC, we request that this condition be revised to show clearly that Unit 9 is allowed to undergo two startups per day with one of these startups being a traditional startup (as analyzed by the SCAQMD during the review of this project). The requested changes are shown below for Condition C1.7:

...The number of start-ups shall not exceed 2 per day. The number of traditional start-ups shall not exceed 1 per day...

Clarifications Regarding Startup Language for New Gas Turbine Units 11 and 12 (FDOC, Section H, Page 33, Condition C1.8)

As requested in our January 27, 2014 comment letter on the PDOC and to be consistent with the language in FDOC Condition C1.7, we request that aborted startups/restarts be counted as a single startup event. In addition, as requested with our comments on the PDOC and to be consistent with FDOC Condition C1.7, we request that the condition be revised to indicate clearly that the limit on the number of startups does not apply during the commissioning period. Also, the changes include the removal of a repeated requirement. The requested changes are shown below for Condition C1.8:

...The operator shall limit the number of start-ups to no more than 60 in any one calendar month.

The number of start-ups shall not exceed 4 per day.

NOx emissions during a start-up shall not exceed 28 lbs.

~~The NOx emissions from a startup shall not exceed 28 lbs.~~ The beginning of startup occurs at initial fire in the combustor and the end of startup occurs when the BACT levels are achieved. If during startup the process is aborted then the start-up and re-start is

defined as “one start-up.” In this case the start-up shall not exceed one hour. ~~the process will count as one startup.~~

The requirements of this condition do not apply during the initial commissioning period.

Clarifications Regarding Catalyst Operating Temperatures for New Gas Turbine Units 9, 11, 12 (FDOC, Section H, Pages 36 to 48, Conditions D12.15 and D12.18)

As indicated in our January 27, 2014 comment letter on the PDOC, we request that these conditions be revised to show clearly that the catalyst operating temperature requirements do not apply during the commissioning period. The requested change is shown below for Condition D12.15 (with identical changes needed for Conditions D12.18 and D12.21):

...The temperature limitations of this condition do not apply during turbine startup and shutdown periods and do not apply during the commissioning period.

Clarifications Regarding Catalyst Operating Temperatures for Auxiliary Boiler (FDOC, Section H, Page 40, Condition D12.21)

This is a new condition that was not included in the PDOC. As requested above for the gas turbines, we request that this condition be revised to show clearly that the catalyst operating temperature requirements do not apply during the commissioning period and do not apply during auxiliary boiler startups/shutdowns. The requested change is shown below for Condition D12.21:

...The temperature shall remain between 500 degrees F and 750 degrees F.

The temperature limitations of this condition do not apply during boiler startup and shutdown periods and do not apply during the commissioning period.

Clarification Regarding PM₁₀ Test Method for Auxiliary Boiler (FDOC, Section H, Pages 50, Condition D29.13)

To be consistent with the draft permit language contained in an earlier section of the FDOC (Engineering Evaluation, page 73 of 122), we request the test method for PM₁₀ be changed to “Approved District Method” rather than the NH₃ test methods listed in this condition.

GHG Emission Limits New Gas Turbine Unit 9 (FDOC, Section H, Page 59, Condition E193.6)

This draft permit condition limits the annual GHG emissions for the new gas turbine Unit 9 and includes the calculation method used to track compliance with this limit. We request that the GHG emission factor in this condition be updated to match the revised

factor of 60.179 tons_{CO2e}/mmscf shown on page 112 of 122 of the FDOC Engineering Evaluation. The requested change is shown below for Condition E193.6:

...GHG = ~~60.139~~ 60.179*FF, where..

GHG Emission Limits New Gas Turbine Unit 9 (FDOC, Section H, Page 60, Condition E193.8)

This draft permit condition limits the annual GHG emissions for the new gas turbines Units 11 and 12 and includes the calculation method used to track compliance with this limit. We request that the GHG emission factor in this condition be updated to match the revised factor of 60.179 tons_{CO2e}/mmscf shown on page 112 of 122 of the FDOC Engineering Evaluation. In addition, we request that the total GHG annual limit be revised to match the updated total shown on page 113 of 122 of the FDOC Engineering Evaluation. Furthermore, we request that the GHG lbs/MWh_{net} limit be changed from 1,503 to 1,544 lbs/MWh_{net} to account for the change to the GHG annual total emissions and a correction needed in the calculation of annual net MWh total for each unit.² The requested change is shown below for Condition E193.8:

...GHG = ~~60.139~~ 60.179*FF, where

Where, GHG is the greenhouse gas emissions in tons of CO2e and FF is the monthly fuel usage in millions standard cubic feet.

The operator shall calculate and record the GHG emissions in pounds per net megawatt hours on the 12-month rolling average. The GHG emissions from this equipment shall not exceed ~~140,998~~ 141,093 tons per year. The GHG emissions shall not exceed ~~1,503~~ 1,544 lbs per net megawatt-hours.

Proposed GHG NSPS for New Gas Turbines Units 11 and 12 (FDOC, Section H, Pages 62, Condition E448.2)

This is new draft permit condition that did not appear in the PDOC. In our April 20, 2014 letter to the SCAQMD, we discussed the idea of a new permit condition associated with the draft GHG NSPS and explained that because the new GHG NSPS is not yet finalized/adopted, it would be premature at this point for the SCAQMD to develop a permit condition based on the draft language in this proposed regulation. Doing so will likely result in a permit limit that is inconsistent with the final regulation. While we continue to believe that it would be better not to develop a permit condition until the new GHG NSPS is finalized, because the SCAQMD is going forward with this approach we request a change to draft permit condition in the FDOC to make it consistent with the draft GHG NSPS. This change clarifies that to trigger the requirements of the draft GHG NSPS, a unit must both supply one-third or more of its potential electrical output and

² See Table A-3, 55% load case, power output total during startups, page 118 of 122 FDOC Engineering Evaluation. 480 startups/year x 18.7 MW net = 8,976 MWh_{net} per year rather than the 11,842 MWh_{net} shown on Table A-3. This changes the overall total annual net output from each unit to 108,017 MWh_{net} rather than the 110,883 MWh_{net} shown on page 119 of 122. This changes GHG lbs/MWh_{net} from 1,503 lbs/MWh_{net} to 1,544 lbs/MWh_{net}.

more than 219,000 MWh net electrical output to a utility distribution system on a 3-year rolling average basis. The requested change is shown below for Condition E448.2:

...This equipment shall not supply ~~either~~ one-third or more of its potential electrical output ~~or~~ and more than 219,000 MWh net electrical output to a utility distribution system on a 3-year rolling average basis...

Rule 1304.a MW Limit (FDOC, Section H, Pages 63, Condition E448.3)

This is new draft permit condition that did not appear in the PDOC. In our April 20, 2014 letter to the SCAQMD, we discussed the idea of a new permit condition associated with the boiler replacement offset exemption and explained that to allow for greater operational flexibility and to be consistent with the language of the Rule 1304.a.2, we requested that the permit condition limit the total gross MW output of the entire facility (Units 5-12) to 1020 MW³. Limiting the total MW output of the entire facility to the same MW level as the retired boilers is consistent with the intent of the Rule 1304.a boiler replacement offset exemption: *...The new equipment has a maximum electrical power rating (in megawatts) that does not allow basinwide electricity generating capacity on a per-utility basis to increase.* In addition, this approach to limit the MW output of the entire facility is also consistent with draft permit language developed recently by the SCAQMD for the boiler replacement associated with the Huntington Beach Energy Project.⁴ The requested change is shown below for Condition E448.3:

...The total maximum amount of electricity produced on a gross basis from gas turbine devices D67 and D68 and the corresponding steam turbines, gas turbine device D90 and the corresponding steam turbine, device D100 and device D106 shall not exceed ~~447~~1020 MWh.

The gross electrical output shall be measured at the two generators serving each of the two Siemens combined cycle gas turbines, the two generators serving GE 7FA combined cycle gas turbine, and the two generators serving the two Trent 60 simple cycle gas turbines...

NO_x RECLAIM Trading Credits for Auxiliary Boiler (FDOC, Section H, Page 65, Condition I297.6)

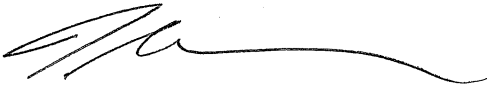
To be consistent with the annual NO_x emissions summarized in Table C-5 of the FDOC Engineering Evaluation, we request that the amount of NO_x RTCs required for the first year of operation be changed from 521 lbs to 564 lbs.

³ 175 MW per unit for shutdown of existing Units 1 and 2, 335 MW per unit for shutdown of existing Units 3 and 4.

⁴ SCAQMD FDOC Issued to the Huntington Beach Energy Project, July 18, 2014, page 66 of 144, Condition C1.9. (http://docketpublic.energy.ca.gov/PublicDocuments/12-AFC-02/TN202774_20140720T144203_Final_Determination_of_Compliance_for_the_Huntington_Beach_Ener.pdf).

If you have any questions regarding these comments, please do not hesitate to contact us.

Respectfully,

A handwritten signature in dark ink, appearing to read 'Tom Andrews', with a long, sweeping horizontal line extending to the right.

Tom Andrews

cc: George Piantka, NRG Energy
Robert Mason, CH2M Hill
John McKinsey, Locke Lord