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June 17, 2014

VIA E-FILING AND HAND-DELIVERY

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)
Supplemental Information Regarding Auxiliary Boiler

Dear Ms. Stora:

On June 13, 2014, El Segundo Energy Center LLC's ("**ESEC LLC**") representative provided the enclosed letter and modeling data to the South Coast Air Quality Management District (the "**Air District**"). This letter constitutes ESEC LLC's response to the Air District's request for additional information about the April 30, 2014 permit application package for the new auxiliary boiler proposed in the Petition to Amend the El Segundo Energy Center (00-AFC-14C). Due to the size of the accompanying modeling information, it has been provided on compact disks that will be hand-delivered to the California Energy Commission. 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

Enclosures (compact disks to be hand-delivered)

June 13, 2014

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Kenneth L. Laird
AQ Engineer II
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765

Subject: El Segundo Power Facility Modification Project – SCAQMD Permit Application

Dear Mr. Laird:

On behalf of El Segundo Power, Sierra Research is providing the following additional information regarding the April 30, 2014 permit application package for a Selective Catalytic Reduction (SCR) system for the new auxiliary boiler proposed for the El Segundo Power Facility Modification Project (ESPFM). As part of the auxiliary boiler SCR permit application, El Segundo Power asked for an exemption from the normal operation NOx and CO emission levels (5 ppm @ 3% $O_2$ NOx, 50 ppm @ 3% $O_2$ CO) during an 80-hour commissioning period. As requested recently by the District, enclosed as Attachment 1 is the detailed commissioning schedule for the auxiliary boiler.

The District also asked for the air dispersion modeling results for the elevated emissions during the auxiliary boiler commissioning period. A new set of modeling runs was performed to analyze the impacts for the auxiliary boiler commissioning period. As requested by the District modeling group, this analysis was done using the latest version of the AERMOD model (Version 14134) along with the latest meteorological data set and background ozone ambient data set (2007 to 2011) available from the District for the project area. Other than these updates, the auxiliary boiler commissioning modeling was performed using the same parameters/approach used for the previous modeling done for this project.

Only 1-hr $NO_2$, 1-hr CO, and 8-hr CO impacts were analyzed due to the short-term nature of the auxiliary boiler commissioning period. The federal 1-hr $NO_2$ impacts were not included in this analysis because commissioning is a once-in-a-lifetime event and is thus not applicable to the multi-year statistical form of the federal standard. Also, $SO_2$ and $PM_{10}/PM_{2.5}$ impacts were not analyzed because these emissions are not expected to be elevated (not higher than levels analyzed in previous modeling) during the auxiliary boiler commissioning period. For this modeling, the worst-case low-load case (see Attachment 1 - First burner light off) and worst-case high-load case (see Attachment 1 – Manual set-up of fuel/air ...) were analyzed. The maximum modeling impacts are summarized in Table 1. As shown in this table, the maximum impacts during the auxiliary boiler commissioning period remain below the most stringent ambient air quality standards. The detailed modeling files are included in the enclosed compact disc.

**Table 1**
**Modeled Maximum Impacts During Auxiliary Boiler Commissioning**

| Pollutant | Averaging Period | Maximum Predicted Impact ($\mu g/m^3$) | Background Concentration[a] ($\mu g/m^3$) | Total Concentration ($\mu g/m^3$) | NAAQS ($\mu g/m^3$) | CAAQS ($\mu g/m^3$) |
|---|---|---|---|---|---|---|
| $NO_2$ | 1-hr | 43.1 | 184.6 | 228 | -- | 339 |
| | Fed. 1-hour | n/a | n/a | -- | 188 | -- |
| | Annual | n/a | n/a | -- | 100 | 57 |
| $SO_2$ | 1-hr | n/a | n/a | -- | 196 | 655 |
| | 3-hr | n/a | n/a | -- | 1300 | -- |
| | 24-hr | n/a | n/a | -- | -- | 105 |
| CO | 1-hr | 97.9 | 3,565 | 3,663 | 40,000 | 23,000 |
| | 8-hr | 75.4 | 2,875 | 2,950 | 10,000 | 10,000 |
| $PM_{10}$ | 24-hr | n/a | n/a | -- | 150 | 50 |
| | Annual | n/a | n/a | -- | -- | 20 |
| $PM_{2.5}$ | 24-hr | n/a | n/a | -- | 35 | -- |
| | Annual | n/a | n/a | -- | 12 | 12 |

Notes:
a. Maximum background level for LAX monitoring station over three-year period from 2011 to 2013 (*http://www.epa.gov/airquality/airdata/ad_rep_mon.html*).

If you have any questions or need any additional information, please do not hesitate to contact us.

Sincerely,

Tom Andrews
Principal Engineer

Attachments

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

# ATTACHMENT 1

# AUXILIARY BOILER COMMISSIONING SCHEDULE

**Commissioning Schedule for Auxiliary Boiler**

| Commissioning Process | Duration (hours) | Average Heat Input (MMBtu/hr) HHV | Maximum Heat Input (MMBtu/hr) HHV | Emission Factors | | | | | Average Hourly Emissions | | | | | Maximum Hourly Emissions | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NOx (lbs/MMBtu) | CO (lbs/MMBtu) | VOC (lbs/MMBtu) | SOX (lbs/MMBtu) | PM10 (lbs/MMBtu) | NOx (lbs/hr) | CO (lbs/hr) | VOC (lbs/hr) | SOx (lbs/hr) | PM10 (lbs/hr) | NOx (lbs/hr) | CO (lbs/hr) | VOC (lbs/hr) | SOx (lbs/hr) | PM10 (lbs/hr) |
| First burner light-off | 24 | 6 | 6 | 0.100 | 0.145 | 0.004 | 0.0021 | 0.0075 | 0.56 | 0.80 | 0.02 | 0.01 | 0.04 | 0.56 | 0.80 | 0.02 | 0.01 | 0.04 |
| Boiler conditioning | 24 | 3 | 3 | 0.100 | 0.145 | 0.004 | 0.0021 | 0.0075 | 0.28 | 0.40 | 0.01 | 0.01 | 0.02 | 0.28 | 0.40 | 0.01 | 0.01 | 0.02 |
| Manual set-up of fuel/air ratio throughout firing range (low to 100%) | 24 | 28 | 36 | 0.040 | 0.145 | 0.004 | 0.0021 | 0.0075 | 1.11 | 4.02 | 0.11 | 0.06 | 0.21 | 1.44 | 5.22 | 0.14 | 0.08 | 0.27 |
| Downloading to CCS/SCR of operating curves for automatic operation | 8 | 20 | 36 | 0.020 | 0.145 | 0.004 | 0.0021 | 0.0075 | 0.40 | 2.90 | 0.08 | 0.04 | 0.15 | 0.72 | 5.22 | 0.14 | 0.08 | 0.27 |
| **Total =** | 80 | | | | | | | | | | | | | | | | | |