DOCKETED

Docket Number:	00-AFC-14C
Project Title:	El Segundo Power Redevelopment Project Compliance
TN #:	202294
Document Title:	Response to April 2, 2014 SCAQMD Letter; Response to CO2 NSPS and Rule 1304 Comments for FDOC Consideration
Description:	N/A
Filer:	Dee Hutchinson
Organization:	Locke Lord LLP
Submitter Role:	Applicant Representative
Submission Date:	5/5/2014 4:12:22 PM
Docketed Date:	5/5/2014

El Segundo Power, LLC.
301 Vista Del Mar Boulevard
El Segundo, CA 90245
Phone: 310.615.6028
Fax: 310.615.6060

April 30, 2014

Kenneth Coats
AQ Engineer II
South Coast AQMD
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

Subject: **El Segundo Power Facility Modification Project – Response to April 2, 2014 SCAQMD Letter (Auxiliary Boiler BACT Requirements); Response to CO2 NSPS and Rule 1304 Comments for FDOC Consideration**
El Segundo Power, LLC (Facility ID 115663)
301 Vista Del Mar Blvd, El Segundo CA 90245

Dear Mr. Coats:

On behalf of El Segundo Power, LLC ("El Segundo Power"), NRG Energy is providing the enclosed permit application package for a Selective Catalytic Reduction (SCR) system for the new auxiliary boiler proposed for the El Segundo Power Facility Modification ("ESPFM") Project; the application and information below are in response to comments received from SCAQMD in their April 2, 2014 letter (Attachment 1). In addition, El Segundo Power is proposing two new permit conditions for consideration in the future ESPFM Final Determination of Compliance ("FDOC") to resolve comments received from the SCAQMD regarding the proposed federal CO_2 New Source Performance Standard for gas turbines and the MW output for the new units at the El Segundo Power Facility.

Auxiliary Boiler BACT

The enclosed permit application package (see Attachment 2) was prepared in response to the SCAQMD's April 2, 2014 letter to El Segundo Power concluding that Best Available Control Technology (BACT) for the proposed auxiliary boiler are NOx and CO limits of 5 ppm and 50 ppm @ 3% O_2, respectively. To achieve the 5 ppm NOx limit, it will be necessary to equip the proposed auxiliary boiler with an SCR system. As discussed in the enclosed boiler vendor letter (see Attachment 3), with the installation of the SCR system the auxiliary boiler will comply with the 5 ppm NOx BACT limit throughout the boiler operating range (10% to 100% load). In addition, the auxiliary boiler will comply with the 50 ppm CO BACT limit when the boiler operates between 20% to 100% load; however, below an operating level of 20% (10% to 20%), the boiler will comply with a CO limit of 100 ppm. Therefore, it will be necessary for the ESPFM FDOC to have a two-tier CO ppm limit depending on the boiler operating load. Low-load operation (below 20%) is uncommon for boilers, but is essential in this application to minimize the unnecessary consumption of fuel simply to meet a minimum load requirement.

The enclosed boiler vendor letter also discusses the minimum SCR operating temperature of 500 °F for the SCR to achieve the necessary control level to comply with the 5 ppm NOx limit. Therefore, the FDOC will need to include an exemption from the 5 ppm NOx limit during boiler operations where the SCR is below the proper operating temperature. While it may be possible to estimate a time duration for boiler operation when the SCR temperature is below the required level, and, as shown in the enclosed email from the boiler vendor (also enclosed in Attachment 3), these estimates are 120 minutes following a startup and 60 minutes preceding a shutdown, we believe it more technically defensible to base the NOx exemption on the clear engineering parameter (temperature) rather than on estimated time durations. An incorrect time estimate will only lead to excessive (but compliant) fuel use and emissions if boiler load is increased simply to avoid violating duration limit. We request that this temperature exemption be included in the FDOC for the auxiliary boiler.

Finally, the enclosed boiler vendor letter (along with associated email) also discuss the need for a commissioning period to allow for the boiler operation needed to properly adjust/test the SCR system. Per the information from the boiler vendor, we request a commissioning exemption of 80 operating hours be included in the FDOC for the auxiliary boiler.

The following are the proposed new SCAQMD permit conditions for the auxiliary boiler:

A195.17 The 5 PPMV NOx emission limit is averaged over 1 hour, dry basis at 3 percent oxygen. This limit shall not apply to boiler commissioning, start-up, and shutdown periods. The commissioning period shall not exceed 80 operating hours. Following the commissioning period, the limit shall apply at all times when the SCR catalyst inlet temperature is in excess of 500°F.

[Devices subject to this condition: D112]

A195.18 The 50 PPMV CO emission limit is averaged over 1 hour, dry basis at 3 percent oxygen. This limit shall not apply to boiler commissioning, start-up, and shutdown periods, and when the boiler load is less than or equal 20%. The commissioning period shall not exceed 80 operating hours. Following the commissioning period, a start-up shall not exceed 120 minutes, and a shutdown shall not exceed 60 minutes.

[Devices subject to this condition: D112]

A195.19 The 100 PPMV CO emission limit is averaged over 1 hour, dry basis at 3 percent oxygen. This limit shall apply when the boiler load is greater than 10% and less than or equal to 20%. This limit shall not apply to boiler commissioning, start-up, and shutdown periods. The commissioning period shall not exceed 80 operating hours. Following the commissioning period, a start-up shall not exceed 120 minutes, and a shutdown shall not exceed 60 minutes.

[Devices subject to this condition: D112]

In addition to the referenced attachments, enclosed is a check payable to the SCAQMD for $5,263.29 to cover the filing fee for the auxiliary boiler SCR permit application. This fee includes the filing fee estimate of $3,508.86 provided recently by the SCAQMD plus the additional 50% for expedited review.

CO_2 New Source Performance Standard

On January 8, 2014, the U.S. Environmental Protection Agency (EPA) proposed a revised draft new source performance standard for emissions of carbon dioxide (CO_2) for affected fossil fuel-fired electric utility generating units. The EPA revised the draft CO_2 NSPS due to a large number of public comments received on the previous draft version of the regulation. According to the EPA website for this regulation, the public comment period for the revised draft NSPS has been extended to a new deadline of May 9, 2014.[1] Please note that EPA is considering two options for codifying the new CO_2 NSPS requirements. Under the first option, EPA is proposing to codify the NSPS within the existing 40 CFR 60 subparts; applicable CO_2 standards for stationary combustion turbines would be included in Subpart KKKK. Under the second option, the EPA is co-proposing a new Subpart TTTT (as in the original proposal for this rulemaking) to include all CO_2 standards for covered sources (including stationary combustion turbines).

It is our understanding that the SCAQMD is considering including a new permit condition in the FDOC that would limit the annual operation of Units 11 and 12 (proposed new Trent units) to exempt the units from the *proposed* CO_2 NSPS. The operating limit in this permit condition would be based on the current exemption language in the *proposed* NSPS.[2,3] While Units 11 and 12 may ultimately be exempt from the proposed new CO_2 NSPS due to limited annual operation, because the new 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 NSPS. Doing so will likely result in a permit limit that is inconsistent with the final regulations. As an alternative, we request that the SCAQMD include a more generic permit condition regarding the proposed NSPS that requires a submittal by El Segundo Power following the finalization of the regulation. The following is the requested new permit condition that covers all of the combustion turbines (existing and proposed) at the facility:

If the final, adopted version of 40 CFR 60 Subpart TTTT, or the final, amended version of 40 CFR 60 Subpart KKKK, applies to GHG emissions from Units 5-12, within 90 days of adoption, the project owner shall submit to the SCAQMD a demonstration that the project will be in compliance with the requirements of that Subpart or, in the alternative, shall submit a permit application requesting new or modified permit conditions that will ensure compliance with those requirements.

MW Limit for New Units

It is also our understanding that the SCAQMD is considering including a new permit condition in the FDOC that would ensure that the MW rating of the El Segundo Power steam boiler units shutdown/retired for the proposed project matches the MW rating of the proposed new units. This issue is associated with the Rule 1304.a.2 boiler replacement emission offset exemption that is part of mitigation package for this project. One of the options being considered by the

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[1] *http://www2.epa.gov/carbon-pollution-standards/2013-proposed-carbon-pollution-standard-new-power-plants.*

[2] Subpart TTTT, 60.5509.a.2) A stationary combustion turbine that has a design heat input to the turbine engine greater than 73 MW (250 MMBtu/h), combusts fossil fuel for more than 10.0 percent of the average annual heat input during a 3 year rolling average basis, combusts over 90% natural gas on a heat input basis on a 3 year rolling average basis, and was constructed for the purpose of supplying, and supplies, one-third or more of its potential electric output and more than 219,000 MWh net-electrical output to a utility distribution system on a 3 year rolling average basis.

[3] The above exemption language is also in the proposed draft Subpart KKKK, 60.4305.c.

SCAQMD is a permit condition that would limit the gross output of the new units (Units 9-12) to 447 MW (112 MW carry over from shutdown of existing Unit 3 plus 335 MW for shutdown of existing Unit 4). While a permit condition limiting the gross MW output of the new units to 447 MW is reasonable; however, to allow for greater operational flexibility and to be consistent with the language of the Rule, we request the permit condition limit the total gross MW output of the entire facility (Units 5-12) to1020 MW (175 MW per unit for shutdown of existing Units 1 and 2, 335 MW per unit for shutdown of existing Units 3 and 4). 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.*

If you have any questions or need any additional information, please do not hesitate to contact me at 760-710-2156 (office) or 760-707-6833 (cell).

Sincerely,

George L. Piantka, PE
Director, Environmental Business
NRG Energy, Inc. West Region

Attachments

cc: Ken Riesz, NRG Energy
Tom Andrews, Sierra Research
Robert Mason, CH2M Hill
John McKinsey, Locke Lord

ATTACHMENT 1

SCAQMD April 2, 2014 Comment Letter –
Auxiliary Boiler BACT Requirements

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

April 2, 2014

Mr. George L. Piantka, P.E.
Director, Environmental Business
NRG West
5790 Fleet Street Suite 200
Carlsbad, CA 92008

Subject: El Segundo Power Facility Modification (ESPFM) Project located at 301 Vista Del Mar, El Segundo, CA 90245 (Facility ID No.115663) Auxiliary Boiler BACT Requirements

Dear Mr. Piantka:

The South Coast Air Quality Management District (SCAQMD) staff is currently evaluating the permit applications for the proposed modifications to the El Segundo Power Facility Modification Project (ESPFM). As you are aware, the project will require a source of steam to utilize the rapid start capability of the GE 7FA combined cycle gas turbine. As such the proposed project will include a 36 MMBTU/hr auxiliary boiler which will be fired with pipeline quality natural gas.

Before completion of our evaluation and the Final Determination of Compliance (FDOC), the SCAQMD must determine that the new, proposed auxiliary boiler will comply with the Major Source BACT requirements. The Major Source BACT requirements for natural gas fired watertube boilers is 5 ppmv NOx and 50 ppmv CO, each measured at 3% O2, dry basis. The 5 ppmv NOx determination was based on Rule 1146 BARCT requirements for Group I and II Units which are greater than 20 MMBTU/hr. Furthermore, two similar watertube boilers permitted at LAC/USC Medical Center in August 2012, both of which are in in current operation, are using a low NOx burner and an SCR unit to achieve the Major Source BACT limits of 5 ppmv NOx and 50 ppmv CO.

This information was previously communicated to you in an email and phone call dated January 8, 2014. Therefore, please submit evidence by May 1, 2014 that the proposed auxiliary boiler will comply with the above Major Source BACT limits such that we can finalize the FDOC and permits for the proposed project. If your determination requires installation of additional equipment which requires an Permit to Construct from SCAQMD, please submit the necessary applications by May 1, 2014. Furthermore, any changes to the scope should be conveyed to your CEC contact for their review and evaluation.

If you have any questions or need additional information, please contact Mr. John Yee (jyee@aqmd.gov) at (909) 396-2531 or Mr. Kenneth L. Coats (kcoats@aqmd.gov) at (909) 396-2527.

Sincerely,

Andrew Lee, P.E.
Senior AQ Engineering Manager
Energy/Public Services/Waste Management/Terminals

MN:AYL:CDT:JTY:klc
cc: Mary Dyas, CEC

ATTACHMENT 2

SCAQMD APPLICATION FORMS

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): El Segundo Power, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (◉) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

301 Vista Del Mar
Street Address
El Segundo , CA 90245
City Zip
George L. Piantka, PE — Director, Env. Business
Contact Name — Title
(760) 710-2156 — Ext. — Fax #
E-Mail: george.piantka@nrgenergy.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☐ Check here if same as equipment location address

5790 Fleet Street, Suite 200
Address
Carlsbad , CA 92008
City State Zip
George L. Piantka, PE — Director, Env. Business
Contact Name — Title
(760) 710-2156 — Ext. — Fax #
E-Mail: george.piantka@nrgenergy.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V (◉) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- (◉) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:
- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ( ) Administrative Change
- ( ) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy): | 8b. Estimated End Date of Construction (mm/dd/yyyy): | 8c. Estimated Start Date of Operation (mm/dd/yyyy):

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
New SCR unit on new auxiliary boiler

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process)

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (◉) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (◉) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location?
Electric Power Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 221112

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (◉) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (◉) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: George L Piantka for

18. Title of Responsible Official: Plant Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (◉) Yes

20. Print Name: Ken Riesz

21. Date: 4/30/14

22. Do you claim confidentiality of data? (If Yes, see instructions.) (◉) No ( ) Yes

23. Check List: ☒ Authorized Signature/Date ☐ Form 400-CEQA ☒ Supplemental Form(s) (Ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED $	PAYMENT TRACKING #	VALIDATION

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): El Segundo Power, LLC

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

Address where the equipment will be operated (for equipment which will be moved to various location in AQMD's jurisdiction, please list the initial location site): 301 Vista Del Mar, El Segundo, CA 90245

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Haldor-Topsoe Catalyst Active Material: titanium/vanadium/tungsten

Model Number: DNX929 Type: _____

Size of Each Layer or Module: L: 2 ft. 2 in. W: 4 ft. 6 in. H: 4 ft. 6 in.

No. of Layers or Modules: _____ Total Volume: 28 cu. ft. Total Weight: _____ lbs.

Reducing Agent

( ) Urea ( ) Anhydrous Ammonia (•) Aqueous Ammonia 29.00 % Injection Rate: 5 lb/hr

Reducing Agent Storage*

Diameter: _____ ft. _____ in. Height: _____ ft. _____ in. Capacity: _____ gal

Pressure Setting: _____ psia * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 14706 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: _____ ft/hr

Manufacturer's Guarantee

NOx: _____ ppm $\%O_2$: _____ NOx: _____ gm/bhp-hr Ammonia Slip: 10 ppm @ 3.00 $\%O_2$

Catalyst Life

5 years (expected)

Cost

Capital Cost: $500,000.00 Installation Cost: $250,000.00 Catalyst Replacement Cost: $350,000.00

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: _____ Catalyst Active Material: _____

Model Number: _____ Type: _____

Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in.

No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: _____ per hour

Manufacturer's Guarantee

VOC: _____ ppm VOC: _____ gm/bhp-hr $\%O_2$: _____

CO: _____ ppm CO: _____ gm/bhp-hr $\%O_2$: _____

Catalyst Life

_____ years (expected)

Cost

Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst

Manufacturer:_____ Catalyst Active Material:_____

Model Number:_____ Type:_____

Size of Each Layer or Module: L:_____ ft._____ in. W:_____ ft._____ in. H:_____ ft._____ in.

No. of Layers or Modules:_____ Total Volume:_____ cu. ft. Total Weight:_____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume:_____ per hour

Manufacturer's Guarantee

NH_3:_____ ppm $\%O_2$:_____

Catalyst Life

_____ years (expected)

Cost

Capital Cost:_____ Installation Cost:_____ Catalyst Replacement Cost:_____

Section C - Operation Information

Operating Temperature

Minimum Inlet Temperature: 500 °F (from cold start) Maximum Temperature: 750 °F

Warm-up Time:_____ hr._____ min. (maximum)

Operating Schedule

Normal: _____ hours/day _____ days/week _____ weeks/yr

Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: George L Piantka Date: 4/30/14 for

Title: Senior Engineer Company Name: Sierra Research, Inc.

Name: Tom Andrews

Phone #: (916) 273-5139 Fax #: (916) 444-8373

Email: tandrews@sierraresearch.com

Contact Info

Name: George L. Piantka, PE

Title: Director, Env. Busines Company Name: NRG Energy

Phone #: (760) 710-2156 Fax #:

Email: george.piantka@nrgenergy.com

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Form 400 - XPP

Express Permit Processing Request

Form 400-A, Form 400-CEQA and one or more 400-E-xx form(s) must accompany all submittals.

Mail To:
SCAQMD
P.O Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator To Appear On The Permit): El Segundo Power, LLC

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 115663

Section B - Equipment Location Address

3. (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

301 Vista Del Mar
Street Address

El Segundo, CA 90245
City State Zip

George L. Piantka, PE — Director, Env. Busines
Contact Name Title

(760) 710-2156 — — —
Phone # Ext. Fax #

george.piantka@nrgenergy.com
E-Mail

Section C - Permit Mailing Address

4. Permit and Correspondence Information:
☐ Check here if same as equipment location address

5790 Fleet Street, Suite 200
Address

Carlsbad, CA 92008
City State Zip

George L. Piantka, PE — Director, Env. Business
Contact Name Title

(760) 710-2156 — —
Phone # Ext. Fax #

george.piantka@nrgenergy.com
E-Mail

Section D - Authorization/Signature

I understand that the Expedited Permit Processing fees must be submitted at the time of application submittal, and that the application may be subject to additional fees per Rule 301. I understand that requests for Express Permit Processing neither guarantees action by any specific date nor does it guarantee permit approval; that Express Permit Processing is subject to availability of qualified staff; and that once Express Permit Processing has commenced, the expedited fees will not be refunded. I hereby certify that all information contained herein and information submitted with the application are true and correct.

5. Signature of Responsible Official: George L Piantka Jr

6. Title of Responsible Official: Plant Manager

7. Print Name of Responsible Official: Ken Riesz

8. Date: 4/30/14

9. Phone #: (310) 615-6030

10. Fax #: (310) 615-6060

AQMD USE ONLY	APPLICATION TRACKING #	TYPE B C	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE: $		VALIDATION
ENG. DATE A R	ENG. DATE A R	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

ATTACHMENT 3

AUXILIARY BOILER VENDOR LETTER

6940 Cornhusker Highway
Lincoln NE 68507
402 434 2000
cleaverbrooks.com

April 22, 2014

NRG Energy
Engineering & Construction
1000 Main Street – 2046F
Houston TX 77002

Attention: Ms. Terri Austin, Project Engineer
Subject: Auxiliary Boiler Emissions - NRG's El Segundo Expansion Project

Dear Ms. Austin,

In response to your request, we are pleased to submit the following information:

The Auxiliary Boiler system proposed for your El Segundo Expansion Project (Proposal #04620389) incorporates Cleaver-Brooks' 30,000 lb/hr "D" Type Boiler (Model# NB-100D-40) with a Natcom low-NOx burner system (Model# P-36-G-24-1216) with a maximum design heat release 36.2 MMBtu/hr (HHV) when firing natural gas. The system also includes a Cleaver-Brooks designed SCR system (Model# CBHT-DNX-929) to lower NOx to 5 ppm.

The following emissions rates will apply between 10-100% boiler loads:

NOx:	0.0061 lbs/MMBtu	(5 ppmvd @ 3%-O2)
CO:	0.0370 lbs/MMBtu	(50 ppmvd @ 3%-O2)*
VOC:	0.0040 lbs/MMBtu	
PM2.5:	0.0075 lbs/MMBtu	

* CO emissions may vary at low boiler loads, but not exceed 100 ppm between 10%-20% loads.

Note:

1. The SCR system is designed to reduce stack NOx emissions by 90% based on a minimum catalyst inlet temperature of 500°F with a maximum NH3 slip of 10 ppmvd.
2. The Natcom Low-NOx burner system will not exceed 50 ppm NOx prior to the SCR system.
3. Start-up and Commissioning of the Aux Boiler (typically a 90 day period) will be required to bring the unit into full compliance.

We trust this addresses your request, however please contact our office should you have any further questions or concerns.

Sincerely,

Rick Fiorenza
VP Sales, Burner Applications

cc: Aaron Fink

Tom W. Andrews

From: Rick Fiorenza <RFiorenza@natcom.com>
Sent: Tuesday, April 29, 2014 8:57 AM
To: Tom W. Andrews
Cc: Aaron Fink; Austin, Terri; Jim Roberts
Subject: RE: NRG Energy - El Segundo Expansion Project - Aux Boiler

Tom,

Cleaver-Brooks recommends the following emissions exemptions periods for the subject project:

- 120 minute boiler startup period exemption.
- 60 minute boiler shutdown period exemption.
- 80 operating hour boiler commissioning period exemption.

Regards,

Rick Fiorenza
VP Sales, Burner Applications
Engineered Boiler Systems

CleaverBrooks

Office. 916.316.2542 | Mobile: 916.316.2542 | Fax: 514.326.9347
HTML footer: