# A/N 511914

South Coast Air Quality Management District

# Form 400-A

# Application For Permit To Construct and Permit To Operate

Mail Application To:
P.O. Box 4944
Diamond Bar, CA 91765

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

## Section A: Operator Information

1. Business Name of Operator To Appear On The Permit:
ExxonMobil Oil Corporation

2. Valid AQMD Facility ID (Available on Permit or Invoice Issued by AQMD): 10407

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

## Section B: Equipment Location

4. Equipment Location Address:
For equipment operated at various locations in AQMD's jurisdiction, provide address of initial site

3700 West 190th Street
Street Address

Torrance CA, 90509 - 2929
City State Zip Code

County: (•) Los Angeles ( ) Orange ( ) San Bernardino ( ) Riverside

Contact Name: Craig Sakamoto

Contact Title: Environmental Group Leader Phone: (310) 212-1884

Fax: (310) 212-4681 E-Mail: craig.t.sakamoto@exxonmobil.com

## Section C: Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

Street Address

City State Zip Code

Contact Name:

Contact Title: Phone:

Fax: E-Mail:

## Section D: Application Type

The facility is in ( ) RECLAIM ( ) Title V (•) RECLAIM & Title V Program (please check if applicable)

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

- ( ) New Construction (Permit to Construct)
- ( ) Equipment Operating Without A Permit or Expired Permit*
- ( ) Administrative Change
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Title V Application (Initial, Revisions, Modifications, etc.)
- ( ) Compliance Plan
- ( ) Facility Permit Amendment
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit
- ( ) Permitted Equipment Altered/ Modified Without Permit Approval*
- ( ) Proposed Alteration/Modification to Permitted Equipment
- (•) Change of Condition For Permit To Operate (10)
- ( ) Change of Condition For Permit To Construct
- ( ) Change of Location—Moving to New Site

Existing Or Previous Permit/Application Number:
*(If you checked any of the items in this column, you MUST provide a existing Permit/ Application Number)*
145246 / D03730

* A Higher Permit Processing Fee applies to those items with an asterisk (Rule 301 (c) (1) (D)

7. Estimated Start Date of Operation/Construction (MM/DD/YYYY):

8. Description of Equipment:
BOILER, UTILITY, 75F-1, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, WITH LOW NOX BURNER, 291 MMBTU/HR

9. Is this equipment portable AND will it be operated at different locations within AQMD's jurisdiction? (•) No ( ) Yes

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each) 0

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?
Petroleum Refining

14. What is your businesses primary NAICS Code (North American Industrial Classification System)? 324110

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

16. Are there any schools (K-12) within a 1000-ft. radius of the equipment physical location? (•) No ( ) Yes

## Section F: Authorization/Signature

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

17. Signature of Responsible Official:

18. Title:
Refinery Manager

19. Print Name:
Maxwell A. Ocansey

20. Date:
6/15/10

Check List
- [ ] Form(s) signed and dated by authorized official
- [ ] Supplemental Equipment Form (400-E-XX or 400-E-GEN)
- [ ] CEQA Form (400-CEQA) attached
- [ ] Payment for permit processing fee attached

Your application will be rejected if any of the above items are missing.

| AQMD USE ONLY | APPLICATION/TRACKING # | TYPE | EQUIPMENT CATEGORY CODE: | FEE SCHEDULE: | VALIDATION |
|---|---|---|---|---|---|
| | 511914 | (B) C D | 011305 | $4,416 (G) 74 | 6/17/10 |

| ENG. DATE | CLASS | ASSIGNMENT | CHECK/MONEY ORDER | AMOUNT | Tracking # |
|---|---|---|---|---|---|
| A R 1/8/11 | (I) III IV | Unit C Engineer | 2501181333 | 6104.37 | |

ENG. DATE

011605 Boiler process gas refinery gas 1/2

C11 82389

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE**

**M E M O R A N D U M**

**DATE:** June 6, 2013

**TO:** File

**FROM:** Chingli Lin, Air Quality Engineer

**SUBJECT:** New Conditions Labeled in FP for Boiler 75F-1, Device D805, AN 511914, ExxonMobil, Id 800089

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This application has been evaluated by Ms. Nogc Tran (Team C) and was recommended to be granted Permit to Operate on 6/01/2012. I reviewed the evaluation and agreed with Ms. Tran's recommendation.

New Conditions have been established by Ms. Tran in the report for Boiler 75F-1, or Device D805. These new conditions are created in Facility Program and listed below:

| Report | FP |
|---|---|
| A63.4X | A63.5 |
| B61.7X | B61.8 |
| D82.5X | D82.6 |
| D90.12X | D90.18 |
| H23.13X | H23.39 |

# PERMIT TO OPERATE for BOILER 75F-1, AN 511914

# COMBUSTION EQUIPMENT SUBJECT TO 40CFR60 SUBPART D

**COMPANY NAME:** EXXONMOBIL OIL CORP.
**COMPANY ID:** 800089
**MAILING ADDRESS:** 3700 W. 190th St.
Torrance, CA 90509-2929
**EQUIPMENT LOCATION:** Same as above

**I. EQUIPMENT DESCRIPTION**: Facility Permit ID 800089, Section D
As described in the table below, the following changes are made for Boiler 75F-1 (Device ID D805) installed after 8/17/71, to address Subpart D of 40CFR60 requirements:

a. Impose in the emission column the NOx & SOx limits set forth by Subpart D of 40CFR60 and,
b. Add permit conditions to address Subpart D for opacity limit and monitoring requirements for NOx & fuel gas.

**Facility Permit Section D**

| Equipment | ID No. | Connected to | RECLAIM Source Type/ Monitoring Unit | Emissions & Requirments | Condition |
|---|---|---|---|---|---|
| Process 16: STEAM GENERATION PROCESS | | | | | |
| **System 1: Utility Boilers** | | | | | |
| BOILER, UTILITY, 75F-1, NATURAL GAS, REFINERY GAS, BABCOCK AND WILCOX, WITH LOW NOX BURNER, 291 MMBTU/HR WITH<br>A/N: ~~145246~~, 455156 (TB cancelled), 511914<br><br>BURNER, NATURAL GAS, COEN, MODEL DAF-26, ~~THREE~~, WITH LOW NOX BURNER, ~~STEAM OR WATER INJECTION*~~, 3 TOTAL; 291 MMBTU/HR | D805 | | NOX: MAJOR SOURCE; SOX: MAJOR SOURCE | CO: 2000 PPMV (5) [RULE 407,4-2-1982]; PM: 0.01 GRAINS/SCF (5A) [RULE 476, 10-8-1976]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; PM: 11 LBS/HR (5B) [RULE 476, 10-8-1976]; NOX: 0.2 LB/MMBTU (8) [40CFR60 SUBPART D, 2-16-2012]; | A63.4X, A327.2, B61.3, D82.5x, D90.12, D90.12x, D328.1, E193.16, H23.13, H23.13X ~~A63.5x2~~ |

36/3X

**Dual fuel type burners were permitted previously to combust both gaseous and liquid fuel (Attachments 1 & 2). EM utilized the steam for atomization since the liquid fuel must be atomized to a very fine misty vapor before the liquid will burn. To comply with the RECLAIM program adopted in 1993, burning liquid fuel was terminated by EM (and other refineries in the South Coast Air Basin). Steam atomization discussion can be found in COEN's technical paper in the following website:*
http://www.coen.com/library/technical-papers/a-guide-to-assist-in-evaluating-liquid-fuel-flames/

## II. BACKGROUND:

The relevant permitting background of Boiler 75F-1 is as follows:
3/28/74: PC issued (AN A78986 - Attachment 1) for new installation as to replace four existing boilers, 85 MMBtu/hr rating each, with this 75F-1 boiler. Boiler 75F-1 was

equipped with three combined gas/oil burners with steam assisted for liquid fuel atomization. The construction was completed in 1976.

12/1/88: PO issued (AN 145246, PO D03730) for modification as to replace the burners with low NOx burners (Attachment 2).

03/24/06: An application was submitted by EM (AN 455156) for change of conditions as to address Subpart J of 40CFR60 pursuant to the EPA Consent Decree entered on 12/13/05). Evaluation was completed on 1/21/09 with recommended conditions as per Appendix A and pending supervisor's review. This application will be cancelled and consolidated into its subsequent AN 511914.
(H:\Lisa W\Ngoc Tran\consentdecree_Boiler75F1_455156_GC64.doc)

6/17/10: This application (AN 511914) was submitted by EM for change of conditions as to address Subpart D of 40CFR60 applying to boilers with 250 MMBtu/hr or larger capacity built after 8/17/71, which was missing from the initial Title V permit issued on 12/30/2009. For gaseous fuel burning, Subpart D requirements include the limits for PM, opacity, SOx, and NOx with associated monitoring systems.

For NOx, Subpart D requires the limit of 0.2 lb/MMBtu and the associated CEMS be installed. Such CEMS is exempt if the NOx emission is less than 0.14 lb/MMBtu. Since 2006, EM discovered that the NOx emissions were greater than this 0.14 lb/MMBtu level and therefore, CEMS was no longer be exempted (Attachment 3 – EM's letter sent to the District Manager Edwin Pupka dated 5/3/10). A NOx RECLAIM CEMS will be used as an alternative monitoring plan (AMP), which was approved by the EPA on 4/10/12 (Attachment 4).

## III. ENFORCEMENT RECORD REVIEW:

AQMD: There is no NOV or NTC issued by the district to this boiler in the past two years.

EPA: On December 13, 2005, ExxonMobil and EPA entered into a judicial Consent Decree (CD), Civil Case No. 05 C 5809. Under EPA's National Petroleum Refinery Initiative, EPA alleges and believes that EM has violated the Clean Air Act (CAA). As part of the CD requirements, EM shall limit the SOx emissions from heaters and boilers (including this Boiler 75F-1) as **fuel gas combustion devices** subject to NSPS 40CFR60 Subparts A & J.

## IV. PROCESS DESCRIPTION:

Boiler 75F-1 was installed in 1976 to burn fuel oil and fuel gas (liquid fuel and gaseous fuel). The fuel oil burning was terminated in 1993, in order to comply with RECLAIM emission limit of 0.1 lb/MMBtu for NOx, as an intermediate emission factor, pending the RECLAIM CEMS installation and certification.

The sour gas from the process units are treated in the fuel gas treating system (or amine units) to remove H2S and sent to the fuel gas conditioning system that provides fuel gas to heaters and boilers as low pressure fuel gas users (15 to 20 psig at headers/burners). The fuel gas conditioning system consists of collecting piping, mixing drum (knockout pot), and distribution piping. From the collecting piping, the treated fuel gas streams are sent to the mix drum (Vessel 64C-4), where the gas is mixed and the liquid droplets are separated from

the gas. Natural gas (methane), purchased from Southern California Gas Co., equipped with a flow-indicating controller, is added to the mix drum to adjust the heating value. The mixed gas is distributed, at controlled pressure, and combusted at the heaters and boilers including this 75F-1 boiler. The H2S content in this fuel gas stream (from mixed Vessel 64C-4) is less then 160 ppmv. *(See AN 455166 evaluation for complete description of fuel gas treating system)*

Since the low-NOx burners require better filtration than older burner technology, several filter separators applying coalescing technology have been installed downstream of the fuel gas conditioning systems to remove solid particulates and liquid aerosols. Such filter separator(s) is permitted as fuel gas filter separator and listed in a separate system of the facility permit. For 75F-1 boiler, a filter separator (Vessel 75J-7) was installed and permitted as Device ID D2421 of S3 P16 (AN 422935).

A GC (No. 34, Tag ID A6434127.pv) installed in 1992, located at the outlet of the mix drum 64C-4 is utilized to continuously monitor the 1)fuel gas compositions to determine its high heating value and 2)$H_2S$ content in the fuel gas. This GC is common to this 75F-1 boiler and other non-BACT heaters/boilers.

## V. EMISSION CALCULATIONS:

SOx emissions: EM's 75F-1 boiler will continue to burn fuel gas conditioned by the central fuel gas mix drum/knockout pot 64C-4 following with a filter separator (Vessel 75J-7). As per Subpart J limit of 160 ppmv $H_2S$, the maximum potential SOx emission rate from this boiler is determined below:

a. Based on 160 ppm H2S (40CFR60 Sub J):

$$\frac{160 \text{ parts H2S}}{1.00E+06 \text{ part fuel}} \left| \frac{34 \text{ lbH2S}}{\text{lbmole H2S}} \right| \frac{\text{lbmole}}{379 \text{ scf}} \left| \frac{291 \text{ MMBtu}}{\text{hr}} \right| \frac{\text{scf fuel}}{1173 \text{ Btu}} = \frac{3.56 \text{ lb H2S}}{\text{hr}}$$

$$\frac{3.56 \text{ lb H2S}}{\text{hr}} \left| \frac{64 \text{ lb SO2}}{34 \text{ lb H2S}} \right| \frac{24 \text{ hr}}{\text{day}} = \frac{160.8 \text{ lb}}{\text{day}}$$

$$= \frac{6.70 \text{ lb SOx}}{\text{hr}}$$

or simplyfied:

SOx, lb/d = ppmv x lbmole/379cf x 64 lbSO2/lbmoleSO2 x 1E+6 x (291 MMBtu/hr)/1173 Btu/scf x 24 hr/d

SOx, lb/d, Boiler 75F-1 = 160/379 x 64 x 291/1173 x 24 = 160.87 lb/d

Where,
291: Maximum capacity of 75F-1 boiler
1173 Btu/scf: High heating value of fuel gas after mix drum 64C-4.

Or,
6.70 lb/hr SO2 / 291 MMBtu/hr = 0.023 lb SO2/MMBtu

b. Based on 0.1 grain H2S/dscf fuel (40CFR60 Sub J):

$$\frac{0.1 \text{ gr H2S}}{\text{scf fuel}} \left| \frac{64 \text{ lb SO2}}{34 \text{ lb H2S}} \right| \frac{10^6 \text{ scf}}{\text{MMscf}} \left| \frac{1 \text{ lb}}{7000 \text{ gr}} \right. = 26.89 \text{ lb/MMscf}$$

$$\frac{26.89 \text{ lb}}{\text{MMscf}} \left| \frac{\text{scf}}{1173 \text{ Btu}} \right| \frac{291 \text{ MMBtu}}{\text{hr}} = 6.67 \text{ lb/hr SOx}$$

c. Based on limit 20 ppm $SO_2$ (equivalent to 0.1 gr H2S/scf fuel), dry basis, 0% excess air (40CFR60 Sub J) and formula in Sub D, Section 60.45(e):

$$E = C \left| F \right| \frac{20.9}{20.9 - \%O_2} = CF$$

Where,
E = Emission rate of $SO_2$, lb/MMBtu
C = SO2 concentration at stack, lb/dscf = hourly ave ppm x $2.59 \times 10^{-9}$ x $M_{SO2}$
= 20 ppm x 2.59 x 10-9 lb-mole/dscf -ppm x 64.07 lb/lb-mole
= $3.32 \times 10^{-6}$ lb/dscf
F = Dry flue gas factor = 8740 dscf/MMBtu

E = $3.32 \times 10^{-6}$ lb/dscf x 8740 dscf/MMBtu x [20.9/(20.9-0)]
= 0.029 lb/MMBtu

0.029 lb/MMBtu x 291 MMBtu/hr = 8.44 lb/hr $SO_2$

d. SOx emission 0.06 lb/MMBtu equivalent to 400 ppm H2S content in refinery fuel gas:

$$\frac{400 \text{ parts H2S}}{1.00E+06 \text{ part fuel}} \left| \frac{34 \text{ lbH2S}}{\text{lbmole H2S}} \right| \frac{\text{lbmole}}{379 \text{ scf}} \left| \frac{64 \text{ lb } SO_2}{34 \text{ lb } H_2S} \right| \frac{\text{scf fuel}}{1073 \text{ Btu}} = \frac{0.06 \text{ lb } SO_2}{\text{MMBtu}}$$

NOx emissions: As per Subpart D limit of 0.2 lb/MMBtu, the maximum potential NOx rate of this boiler is determined as follows:

NOx, lb/d = 0.2 lb/MMBtu x 291 MMBtu/hr x 24 hr/d = 1,396.8 lb/d = 58.2 lb/hr

Using the actual CEMS data of NOx = 35.58 ppm @10.10% $O_2$, taken from source test dated October 11-12, 2010, the lb/MMBtu NOx is estimated as follows (equation from Sub D, Section 60.45(e):

$$E = C \left| F \right| \frac{20.9}{20.9 - \%O_2} = CF[20.9/(20.9-10.10)]$$

Where,
E = Emission rate of $NO_x$, lb/MMBtu
C = NOx concentration at stack, lb/dscf = hourly ave ppm x $2.59 \times 10^{-9}$ x $M_{NOx}$
= 35.58 ppm x 2.59 x 10-9 lb-mole/dscf -ppm x 46.01 lb/lb-mole
= $4.24 \times 10^{-6}$ lb/dscf
F = Dry flue gas factor = 8740 dscf/MMBtu

E = $4.24 \times 10^{-6}$ lb/dscf x 8740 dscf/MMBtu x [20.9/(20.9-10.10)]
= 0.072 lb/MMBtu

PM emissions: As per Subpart D limit of 0.1 lb/MMBtu, the maximum potential PM rate of this boiler is determined below. This limit is exempt since EM agreed to comply with 0.06 #/MMBtu

PM, lb/d = 7.6 lb/mmscf (AER) x 291 MMBtu/hr / 1173 Btu/scf x 24 hr/d = 45.25 lb/d = 1.89 lb/hr

PM, lb/d = 0.1 #/MMBtu x 291 MMBtu/hr x 24 hrs/d = 698.4 #/d = 29.1 #/hr

ROG emissions:

ROG, lb/d = 5.5 lb/mmscf (AER) x 291 MMBtu/hr / 1173 Btu/scf x 24 hr/d = 32.75 lb/d = 1.36 lb/hr

CO emissions:

CO, lb/d = 74.22 lb/mmscf (AER 2011) x 291 MMBtu/hr / 1173 Btu/scf x 24 hr/d = 441.9 lb/d = 18.4 lb/hr

## VI. RULE EVALUATION:

Rule 212: R212(c)(1):
The equipment is not located within 1000 feet from the boundary of a school. Therefore, public notice required under R212(c)(1) does not apply.

R212(c)(2):
The change of permit condition does not result in an emission increase exceeding any of the daily limits specified under R212(g). Therefore, public notice required under R212(c)(2) does not apply.

R212(c)(3):
The change of permit condition does not result in an toxic emission increase. Therefore, public notice required under R212(c)(3) does not apply.

R212(g):
The change of permit condition for this RECLAIM facility does not result in an emission increase exceeding any of the daily limits specified under R212(g). Therefore, public notice required under R212(g) does not apply.

Rule 401: With proper operation and maintenance of the boiler, opacity is not expected.

Rule 402: With proper operation and maintenance of the boiler, nuisance is not expected.

Rule 407: Compliance with R407 limit for CO at 2000 ppmv is expected under normal operating condition. Condition D328.1 requires periodic monitoring for compliance determination.

Rule 409: Compliance with R409 limit for PM at 0.1 gr/scf is expected under normal operating condition.

Rule 476: Compliance with R476 limit for PM at either 11 lbs/hr or 0.01 gr/scf is expected under normal operating condition. Condition A327.2 requires the compliance with either PM limit.

Regulation IX – New Source Performance Standards (NSPS):
**40CFR60 Subparts A & J – Fuel gas combustion device:** Under the CD ordered by the EPA on 12/13/06, this boiler be subject to 40CFR60 Subpart A & J requirements as follows:

**Boiler 75F-1 & Subpart J:**

| Equip | Subpart, Section | Requirements | Compliance/ Conditions |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Boiler 75F-1 | A<br>J, 60.104(a)(1)<br>J, 60.105(a)(3)<br>J, 60.105(a)(4) | General provisions<br>Limit 160 ppm H2S content in fuel gas<br>Monitoring of SOx at stack, or<br>monitoring of H2S content in fuel gas | E193.16<br>B61.3, H23.13<br><br>D90.12 (GC 34) |

As listed in the table above, two permit conditions (E193.16 & H23.13) were imposed to address and to ensure compliance with the requirements under the initial Title V permit processing. Two other conditions (B61.3 & D90.12) were recommended be imposed to address Subpart J monitoring requirements under AN 455156 (see Appendix A). Specifically, EM has chosen to monitor H2S content in fuel gas as indicated in Condition D90.12. Fuel gas sample is taken online every 5 mintues at the outlet of the mix drum (Vessel 64C-4) for GC analysis (GC 34, Tag ID A6434127.pv). The analyzed results are recorded every 5 minutes.

**40CFR60 Subparts A & D – Steam Generator Constructed after 8/17/71:**
Per the construction date, Boiler 75F-1 is subject to 40CFR60 Subpart A & D requirements, which was amended recently on 2/16/12, and effective on 4/16/12, as follows:

**Boiler 75F-1 (291 MMBtu/hr) & Subparts A & D:**

| Subpart, Section | Requirements | Compliance/ Conditions |
|---|---|---|
| A | General provisions | E193.16 |
| D,60.42(e) | 0.1 lb/MMBtu PM limit is exempt if combust gaseous fuel causing SOx≤0.06 lb/MMBtu. This limit equivalent to 400 ppmv H2S shown in the calculation section. | B61.7x for 0.06 lb/MMBtu SOx limit equivalent to 400 ppmv H2S in fuel with child condition, H23.13x |
| D,60.42(a)(2) | Opacity limit = 20% | A63.4x, H23.13x |
| D,60.44(a)(1) | NOx = 0.2 lb/MMBtu, gaseous fossil fuel | Emission column, H23.13x |
| D,60.45(a) | CEMS for NOx & O2 monitoring | D82.5x (NOx RECLAIM CEMS is approved by EPA as AMP) Add a child condition for 1) converting ppm to lb/MMBtu and 2) recording/reporting format for NOx @ lb/MMBtu. |
| D,60.45(b)(1) | Gaseous fuel sampling & analysis instead of:<br>1.COMS for opacity monitoring &<br>2.CEMS for SO2 emissions monitoring | D90.12x w/ child condition |

As listed in the table above, two permit conditions (A63.4x & B61.7x) will be imposed to address the emission limits. An overall condition H23.13x is imposed to ensure compliance with all the requirements of Subpart D. Other two monitoring conditions (D82.5x & D90.12x) will also be imposed to address Subpart D monitoring requirements compliance as follows:

- D82.5x: Utilizing RECLAIM NOx & O2 CEMS as alternative monitoring plan (AMP) approved by EPA on 4/10/12. A child condition is added to ensure NOx is converting from CEMS' ppm data to lb/MMBtu data.
- D90.12x: Fuel monitoring at GC 64 tagging with Subpart D (same as existing Condition D90.12 tagged with Sub J). A child condition is added to clarify the exemption of COMS for PM and CEMS for SOx.

For Subpart A requirements, EM has discussed its "Corrective Action Plan" in a letter dated 5/3/2010 (Attachment 3). With Condition D82.5x, the requirements for NOx emissions monitoring, recording, and reporting in terms of lb/MMBtu of AMP are also addressed.

Regulation X – National Emission Standards for Hazardous Air Pollutants (NESHAPS):

**40CFR63, Subpart CC – Standards for Hazardous Air Pollutants (HAPs) from Petroleum Refineries:**

63.640 – Applicability & designation of effected sources: Refining process units and equipment located at EM Torrance plant are subject to this Subpart CC requirements including: 1) storage vessels, 2) wastewater streams, and 3) equipment leaks. Compliance with this subpart is expected. It's noted that Sub CC does not apply to this boiler as combustion equipment.

Regulation XIII – New Source Review (NSR):

This change of condition does not result in an emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia. Therefore, Reg XIII does not apply.

R2011: This boiler is subject to R2011 as SOx major source. CEMs for SOx ranged from 0 to 25 ppm was installed and certified to comply with this rule requirement (Attachment 5). The SOx data from this CEMS may be used as ACEM for other combustion equipment.

R2012: This boiler is subject to R2012 as NOx major source. CEMS for NOx ranged from 0 to 250 ppm was installed and certified to comply with this rule requirement (Attachment 5).

Reg XXX - Title V Permits:

The initial Title V permit was issued to EM on 12/30/2009, and the effective date is 01/25/2010. The proposed change of conditions is treated as the minor permit revision pursuant to R3005(c) as described under R3000(b)(15). The permit is exempt from public comment under R3006(b).

## VII. CONCLUSION AND RECOMMENDATION

The 75F-1 boiler is expected to comply with all applicable AQMD and federal Rules and Regulations. Permit to operate is recommended subject to the following conditions (additional conditions are underlined) imposed on Device D805 (P16 S1):

| Existing AN 145246 | Pending CD Sub J - AN 455156 (Appendix A) – TB cancelled | This pending Sub D - AN 511914 |
|---|---|---|
| A327.2 | B61.3 | A63.4x, B61.7x |
| D328.1 | D90.12 | D82.5x |

| | | |
|---|---|---|
| E193.16 | | D90.12x |
| H23.13 | | H23.13x |

A63.4x The operator shall limit emissions from this equipment as follows:

| CONTAMINANT | EMISSIONS LIMIT |
|---|---|
| Visible emissions | Less than or equal to 20 Percent opacity |

**[40CFR 60 Subpart D, 02-16-2012]**
[Devices subject to this condition: D805]

A327.2 For the purpose of determining compliance with District Rule 476, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time.

**[RULE 476, 10-8-1976]**
[Devices subject to this condition: D803, D805, D1236, D1239]

B61.3 The operator shall not use fuel gas containing the following specified compounds:

| Compound | ppm by volume |
|---|---|
| H2S greater than | 160 |

**[40CFR 60 Subpart J, 06-24-2008]; Consent Decree Civil Case No. C 5809, 12-13-2005]**
[Devices subject to this condition: D83, D84, D85, D120, C164, D231, D232, D234, D235, D270, D367, D805, D833, D913, D914, D917, D918, D920, D925, D927, D928, D929, D930, D931, D949, D950, D1403]

B61.7x The operator shall not use fuel gas containing the following specified compounds:

| Compound | ppm by volume |
|---|---|
| H2S greater than | 400 |

The 400 ppmv H2S limit is equivalent to 0.06 lb/MMBtu SO2 emissions specified in Subpart D.

By compliance with SO2 limit of 0.06 lb/MMBtu, the operator is not required to comply with PM limit of 0.1 lb/MMBtu specified in Subpart D.

**[40CFR 60 Subpart D, 02-16-2012]**
[Devices subject to this condition: D805]

D82.5x The operator shall install and maintain a CEMS to measure the following parameters:

NOX concentration in ppmv

Oxygen concentration in percent volume

The CEMS shall convert the actual NOx concentrations in ppmv to lb/MMBtu.

The CEMS shall record the emissions on the hourly continuous basis on the format approved by the District.

The operator shall periodically measure the NOx according to the following specifications:

The Alternative Monitoring Plan (AMP) approved by the United States Environmental Protection Agency (USEPA) on April 12, 2012, for the periodic monitoring and reporting of NOx in lb/MMBtu for the Boiler 75F-1

In addition, the operator shall also comply with all other requirements of the AMP issued by the USEPA on April 12, 2012, for the Boiler 75F-1

**[RULE 2004, 5-11-2001; RULE 2012, 5-6-2005; [40CFR 60 Subpart D, 2-16-2012]**
[Devices subject to this condition: D805]

D90.12 The operator shall continuously monitor the H2S concentration in the fuel gases before being burned in this device according to the following specifications:

The operator shall monitor the H2S concentration at the outlet of the fuel gas mix drum 64C-4 (Device D838) for fuel combustion devices.

The operator shall use Gas Chromatography (GC 34) meeting the requirements of 40CFR60 Subpart J, Method 11 to monitor the parameter.

The operator shall also install and maintain a device to continuously record the parameter being monitored.

**[40CFR 60 Subpart J, 10-4-1991; CONSENT DECREE CIVIL CASE No. 05 C 5809, 12-13-2005]**
[Devices subject to this condition: D83, D84, D85, D120, C164, D231, D232, D234, D235, D270, D367, D805, D833, D913, D914, D917, D918, D920, D927, D928, D929, D930, D931, D949, D950, D1403]

D90.12 d

D90.12x The operator shall continuously monitor the H2S concentration in the fuel gases before being burned in this device according to the following specifications:

The operator shall monitor the H2S concentration at the outlet of the fuel gas mix drum 64C-4 (Device D838) for fuel combustion devices.

The operator shall use Gas Chromatography (GC 34) meeting the requirements of 40CFR60 Subpart J, Method 11 to monitor the parameter.

The operator shall also install and maintain a device to continuously record the parameter being monitored.

The operator, by compliance with this condition shall not be required to measure 1) the opacity of emissions utilizing a continuous opacity monitoring system (COMS) and 2) the SO2 emissions utilizing a continuous emission monitoring system (CEMS).

**[40CFR 60 Subpart D, 2-16-2012]**
[Devices subject to this condition: D805

D328.1 The operator shall determine compliance with the CO emission limit(s) either: (a) conducting a source test at least once every five years using AQMD Method 100.1 or 10.1; or (b) conducting a test at least annually using a portable analyzer and AQMD-approved test method. The test shall be conducted when the equipment is operating under normal conditions to demonstrate compliance with the emission limits. The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of this permit.

**[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 407, 4-2-1982]**
[Devices subject to this condition: D83, D84, D85, D120, D231, D232, D234, D235, D269, D270, C626, D803, D805, D833, D913, D914, D917, D918, D920, D922, D924, D927, D928, D929, D930, D931, D949, D950, D1236, D1239, D1403]

E193.16 The operator shall operate and maintain this equipment according to the following specifications:

The operator shall comply with all applicable requirements specified in Subpart A of the 40CFR60

**[40CFR 60 Subpart A, 5-16-2007; CONSENT DECREE CIVIL CASE No. 05 C 5809, 12-13-2005]**
[Devices subject to this condition : D83, D84, D85, D120, C164, D231, D232, D234, D235, D269, D367, C626, C686, C687, D803, D805, D833, D913, D914, D917, D918, D920, D922, D924, D925, D927, D928, D929, D930, D931, D949, D950, D1236, D1239, D1403]

H23.13 This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule | Rule/Subpart |
|---|---|---|
| H2S | 40CFR60, SUBPART | J |

**[40CFR 60 Subpart J, 10-4-1991; Consent Decree Civil Case No. 05 C 5809, 12-13-2005]**
[Devices subject to this condition: D83, D84, D85, D120, C164, D231, D232, D234, D235, D270, D367, D805, D833, C894, D913, D914, D917, D918, D920, D927, D928, D929, D930, D931, D949, D950, C952, D1403]

H23.13x This equipment is subject to the applicable requirements of the following rules or regulations:

| Contaminant | Rule | Rule/Subpart |
|---|---|---|
| NOx | 40CFR60, SUBPART | D |
| SOx | 40CFR60, SUBPART | D |
| Visible emission | 40CFR60, SUBPART | D |

**[40CFR 60 Subpart D, 2-16-2012]**
[Devices subject to this condition: D805]

## Appendix A

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