



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

April 3, 2012

Mr. Gerardo Rios
Chief – Permits Office
U. S. EPA, Region IX
75 Hawthorne Street, Air 3
San Francisco, CA 94105

Dear Mr. Rios:

Subject: San Antonio Community Hospital (ID 14437) – Title V Permit
Revision

San Antonio Community Hospital (ID 14437) has proposed to revise their Title V permit under Application No. 518430 by replacing the burner on an existing boiler. This is a hospital (SIC 8062) located at 999 San Bernardino Road, Upland, CA 91786. This proposed permit revision is considered as a “minor permit revision” to their Title V permit. Attached for your review are the evaluation and permit for the proposed revision. With your expected receipt of the proposed Title V permit revision today, we will note that the EPA 45-day review period begins on April 3, 2012.

If you have any questions or need additional information regarding the proposed permit revision, please call Vicky Lee of my staff at (909) 396-2284.

Very truly yours,

A handwritten signature in black ink, appearing to read "Brian L. Yeh", is written over a light blue horizontal line.

Brian L. Yeh
Senior Manager
General Commercial and Energy Team
Engineering and Compliance

BLY:AYL:RGC:VL
Attachments

**FACILITY PERMIT TO OPERATE
SAN ANTONIO COMMUNITY HOSPITAL**

PERMIT TO CONSTRUCT

**Permit No. TBD
A/N 517738**

Equipment Description:

ALTERATION OF A BOILER, PERMIT NO. G14080 (APPL. NO. 516182), BY THE REMOVAL OF A LOW NOX BURNER, COEN, MODEL NO. SDAF-17, 31,000,000 BTU PER HOUR, NATURAL GAS, METHANOL, PROPANE, OR OIL-FIRED; FLUE GAS RECIRCULATION SYSTEM, AND 15 H.P. COMBUSTION AIR BLOWER; AND THE ADDITION OF A LOW NOX BURNER, POWER FLAME, MODEL CSB310-GO-30, NATURAL GAS FIRED, WITH FUEL OIL STAND-BY, RATED AT 31,000,000 BTU/HR AND A 40 H.P. COMBUSTION AIR BLOWER.

AFTER THE MODIFICATION, THE PERMIT WILL READ AS FOLLOWS:

BOILER, TRANE-MURRAY, WATER TUBE TYPE, MODEL MCF 2-40, SERIAL NO. 10548, WITH A LOW NOX BURNER, POWER FLAME, MODEL NO. CSB310-GO-30, NATURAL GAS FIRED, WITH FUEL OIL STAND-BY, RATED AT 31,000,000 BTU/HR, AND A 40 HP COMBUSTION AIR BLOWER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
3. THIS BOILER SHALL BE FIRED ON NATURAL GAS ONLY, EXCEPT DURING PERIODS OF NATURAL GAS CURTAILMENT, MAINTENANCE TESTING NOT TO EXCEED 30 MINUTES PER MONTH OR COMPLIANCE TESTING WITH FUEL OIL.
[RULE 1146]
4. THE FUEL OIL SUPPLIED TO THE BURNER SHALL BE NO. 2 OR LIGHTER GRADE AS DESCRIBED BY THE LATEST ASTM SPECIFICATIONS.
[RULE 1146]
5. WHEN FIRING ON NATURAL GAS, THIS BOILER SHALL NOT EMIT MORE THAN 9 PPM OF OXIDES OF NITROGEN (NOX), CALCULATED AS NO₂, AND 400 PPM OF CARBON MONOXIDE (CO), BOTH MEASURED BY VOLUME ON A DRY BASIS AT 3% O₂.

WHEN FIRING ON FUEL OIL, THIS BOILER SHALL NOT EMIT MORE THAN 40 PPM OF OXIDES OF NITROGEN (NOX), CALCULATED AS NO₂, AND 400 PPM OF CARBON MONOXIDE (CO), BOTH MEASURED BY VOLUME ON A DRY BASIS AT 3% O₂.

[RULE 1146]

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6. THE OPERATOR SHALL KEEP A MONTHLY LOG OF USAGE THAT SHALL LIST AND DOCUMENT THE NATURE OF USE IN EACH OF THE FOLLOWING AREAS:

- A. DATE AND TIME OF OPERATION ON FUEL OIL;
- B. HOURS OF OPERATION ON FUEL OIL; AND
- C. REASON FOR OPERATION ON FUEL OIL.

[RULE 1146]

7. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT SOURCE TESTS ON THE EQUIPMENT UNDER THE FOLLOWING CONDITIONS:

- A. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 DAYS AFTER INITIAL START-UP OR WITHIN 60 DAYS AFTER RECEIPT OF THIS PERMIT, UNLESS OTHERWISE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.

B. THE SOURCE TESTS SHALL BE PERFORMED TO VERIFY COMPLIANCE WITH THE NOX AND CO EMISSION LIMITS FOR NATURAL GAS AND FUEL OIL SPECIFIED IN CONDITION NO. 5.

C. THE SOURCE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH SCAQMD METHOD 100.1.

D. THE TESTS SHALL BE CONDUCTED WHILE THE BOILER IS OPERATING AT MAXIMUM, MINIMUM, AND NORMAL FIRING RATES. THE SAMPLING TIMES SHALL BE AT LEAST 15 CONSECUTIVE MINUTES FOR EACH LOAD.

E. WRITTEN NOTICE OF THE SOURCE TESTS SHALL BE SUBMITTED TO THE DISTRICT (ADDRESSED TO ATTN: VICKY LEE, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, P.O. BOX 4941, DIAMOND BAR, CA 91765) AT LEAST 14 DAYS PRIOR TO TESTING SO THAT AN OBSERVER MAY BE PRESENT.

F. TWO COMPLETE COPIES OF THE SOURCE TEST REPORTS SHALL BE SUBMITTED TO THE DISTRICT (ADDRESSED TO ATTN: VICKY LEE, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, P.O. BOX 4941, DIAMOND BAR, CA 91765), REFERENCING APPLICATION NO. 517738, WITHIN 45 DAYS AFTER THE TEST IS COMPLETED. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO EMISSIONS RATES IN POUNDS PER HOUR AND CONCENTRATIONS IN PPMV AT THE OUTLET OF THE BOILER, MEASURED ON A DRY BASIS AT 3% OXYGEN. THE FOLLOWING OPERATING DATA SHALL ALSO BE INCLUDED FOR EACH FIRING RATE:

- I. THE EXHAUST FLOW RATES, IN ACTUAL CUBIC FEET PER MINUTE (ACFM),
- II. THE FIRING RATES, IN BTU PER HOUR,
- III. THE EXHAUST TEMPERATURE, IN DEGREES F,
- IV. THE OXYGEN CONTENT OF THE EXHAUST GASES, IN PERCENT, AND
- V. THE FUEL FLOW RATE.

[RULE 1146, RULE 1303(a)(1)-BACT]

**FACILITY PERMIT TO OPERATE
SAN ANTONIO COMMUNITY HOSPITAL**

8. A CONTRACTOR APPROVED UNDER THE DISTRICT LABORATORY APPROVAL PROGRAM IN THE REQUIRED TEST METHODS FOR CRITERIA POLLUTANTS TO BE MEASURED, AND IN COMPLIANCE WITH RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THE TESTS.
[RULE 304, RULE 1146]
9. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.
[RULE 217]
10. THIS BOILER SHALL BE OPERATED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.1, 431.2, AND 1146.
[RULE 1146]
11. THE OPERATOR SHALL MAINTAIN ADEQUATE RECORDS TO VERIFY COMPLIANCE WITH ALL CONDITIONS SPECIFIED IN THIS PERMIT. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED AT THE FACILITY FOR A MINIMUM OF FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.
[RULE 3004]

Emissions and Requirements:

12. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

NO_x: 9 PPMV FOR GASEOUS FUELS, RULE 1146
NO_x: 40 PPMV FOR NON-GASEOUS FUELS, RULE 1146
CO: 400 PPMV, RULE 1146
CO: 2000 PPMV, RULE 407
SO_x: 500 PPMV, RULE 407
PM: 0.1 GR/SCF, RULE 409

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SAN ANTONIO COMMUNITY HOSPITAL
999 SAN BERNARDINO RD
UPLAND, CA 917886-4992

Facility ID 14437

Equipment Location: Same

PERMIT TO CONSTRUCT for MODIFICATION

A/N 518430—Title V Revision

Rev. 7--Minor Title V revision.

This revision consists of replacing the burner on the Trane-Murray boiler, permitted under G14080 (A/N 516182).

A/N 517738—Modified Trane-Murray Boiler, G14080 (A/N 516182)

~~BOILER, TRANE-MURRAY, WATER TUBE TYPE, MODEL MCF 2-40, SERIAL NO. 10548, WITH A COEN BURNER, MODEL NO. SDAF-17, 31,000,000 BTU PER HOUR, NATURAL GAS, METHANOL, PROPANE, OR OIL FIRED, AND A FLUE GAS RECIRCULATION SYSTEM WITH A 15 HP FORCED DRAFT FAN.~~

ALTERATION OF A BOILER, PERMIT NO. G14080 (APPL. NO. 516182), BY THE REMOVAL OF A LOW NOX BURNER, COEN, MODEL NO. SDAF-17, 31,000,000 BTU PER HOUR, NATURAL GAS, METHANOL, PROPANE, OR OIL-FIRED; FLUE GAS RECIRCULATION SYSTEM, AND 15 H.P. COMBUSTION AIR BLOWER; AND THE ADDITION OF A LOW NOX BURNER, POWER FLAME, MODEL CSB310-GO-30, NATURAL GAS FIRED, WITH FUEL OIL STAND-BY, RATED AT 31,000,000 BTU/HR AND A 40 H.P. COMBUSTION AIR BLOWER.

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[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

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~~3. THE AMOUNT OF FLUE GAS RECIRCULATED BACK TO THE BURNER SHALL AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL TO THE BURNER. [RULE 1303(a)(1) BACT, RULE 1146]~~

~~4. WHENEVER THE BOILER IS IN OPERATION, THE FLUE GAS RECIRCULATION SHALL BE AUTOMATICALLY REGULATED SO THAT AT LEAST 15% OF THE FLUE GAS SHALL RETURN BACK TO THE BURNER WHEN THE BOILER IS OPERATING AT FULL LOAD. [RULE 1303(a)(1) BACT, RULE 1146]~~

3. THIS BOILER SHALL BE FIRED ON NATURAL GAS ONLY, EXCEPT DURING PERIODS OF NATURAL GAS CURTAILMENT, MAINTENANCE TESTING NOT TO EXCEED 30 MINUTES PER MONTH OR COMPLIANCE TESTING WITH FUEL OIL. [RULE 1146]

4. THE FUEL OIL SUPPLIED TO THE BURNER SHALL BE NO. 2 OR LIGHTER GRADE AS DESCRIBED BY THE LATEST ASTM SPECIFICATIONS. [RULE 1146]

5. WHEN FIRING ON NATURAL GAS, THIS BOILER SHALL NOT EMIT MORE THAN 9 PPM OF OXIDES OF NITROGEN (NOX), CALCULATED AS NO2, AND 400 PPM OF CARBON MONOXIDE (CO), BOTH MEASURED BY VOLUME ON A DRY BASIS AT 3% O2.

WHEN FIRING ON FUEL OIL, THIS BOILER SHALL NOT EMIT MORE THAN 40 PPM OF OXIDES OF NITROGEN (NOX), CALCULATED AS NO2, AND 400 PPM OF CARBON MONOXIDE (CO), BOTH MEASURED BY VOLUME ON A DRY BASIS AT 3% O2.

[RULE 1146]

6. THE OPERATOR SHALL KEEP A MONTHLY LOG OF USAGE THAT SHALL LIST AND DOCUMENT THE NATURE OF USE IN EACH OF THE FOLLOWING AREAS:

A. DATE AND TIME OF OPERATION ON FUEL OIL;

B. HOURS OF OPERATION ON FUEL OIL; AND

C. REASON FOR OPERATION ON FUEL OIL.

[RULE 1146]

7. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT SOURCE TESTS ON THE EQUIPMENT UNDER THE FOLLOWING CONDITIONS:

A. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 DAYS AFTER INITIAL START-UP OR WITHIN 60 DAYS AFTER RECEIPT OF THIS

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PERMIT, UNLESS OTHERWISE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.

- B. THE SOURCE TESTS SHALL BE PERFORMED TO VERIFY COMPLIANCE WITH THE NOX AND CO EMISSION LIMITS FOR NATURAL GAS AND FUEL OIL SPECIFIED IN CONDITION NO. 5.**
- C. THE SOURCE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH SCAQMD METHOD 100.1.**
- D. THE TESTS SHALL BE CONDUCTED WHILE THE BOILER IS OPERATING AT MAXIMUM, MINIMUM, AND NORMAL FIRING RATES. THE SAMPLING TIMES SHALL BE AT LEAST 15 CONSECUTIVE MINUTES FOR EACH LOAD.**
- E. WRITTEN NOTICE OF THE SOURCE TESTS SHALL BE SUBMITTED TO THE DISTRICT (ADDRESSED TO ATTN: VICKY LEE, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, P.O. BOX 4941, DIAMOND BAR, CA 91765) AT LEAST 14 DAYS PRIOR TO TESTING SO THAT AN OBSERVER MAY BE PRESENT.**
- F. TWO COMPLETE COPIES OF THE SOURCE TEST REPORTS SHALL BE SUBMITTED TO THE DISTRICT (ADDRESSED TO ATTN: VICKY LEE, SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, P.O. BOX 4941, DIAMOND BAR, CA 91765), REFERENCING APPLICATION NO. 517738, WITHIN 45 DAYS AFTER THE TEST IS COMPLETED. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO EMISSIONS RATES IN POUNDS PER HOUR AND CONCENTRATIONS IN PPMV AT THE OUTLET OF THE BOILER, MEASURED ON A DRY BASIS AT 3% OXYGEN. THE FOLLOWING OPERATING DATA SHALL ALSO BE INCLUDED FOR EACH FIRING RATE:**
- I. THE EXHAUST FLOW RATES, IN ACTUAL CUBIC FEET PER MINUTE (ACFM),**
 - II. THE FIRING RATES, IN BTU PER HOUR,**
 - III. THE EXHAUST TEMPERATURE, IN DEGREES F,**
 - IV. THE OXYGEN CONTENT OF THE EXHAUST GASES, IN PERCENT,**
 - AND**
 - V. THE FUEL FLOW RATE.**

[RULE 1146, RULE 1303(a)(1)-BACT]

- 8. A CONTRACTOR APPROVED UNDER THE DISTRICT LABORATORY APPROVAL PROGRAM IN THE REQUIRED TEST METHODS FOR CRITERIA POLLUTANTS TO BE MEASURED, AND IN COMPLIANCE WITH RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THE TESTS.**

[RULE 304, RULE 1146]

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9. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.

[RULE 217]

5: **10. THIS BOILER SHALL BE OPERATED IN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF RULES 431.1, 431.2, AND 1146.**

[RULE 1146]

6: ~~ON OR BEFORE JANUARY 1, 2013, THIS BOILER SHALL NOT EMIT MORE THAN 9 PPM OF OXIDES OF NITROGEN (NOX), CALCULATED AS NO2, MEASURED BY VOLUME ON A DRY BASIS AT 3% O2.~~

~~[RULE 1146]~~

11. THE OPERATOR SHALL MAINTAIN ADEQUATE RECORDS TO VERIFY COMPLIANCE WITH ALL CONDITIONS SPECIFIED IN THIS PERMIT. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED AT THE FACILITY FOR A MINIMUM OF FIVE YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

[RULE 3004]

Periodic Monitoring:

7: ~~THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) BY CONDUCTING A TEST AT LEAST ONCE EVERY YEAR USING A PORTABLE ANALYZER AND AQMD APPROVED TEST METHOD OR, IF NOT AVAILABLE, A NON-AQMD APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.~~

~~[RULE 3004 (a)(4)]~~

8: ~~THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) BY CONDUCTING A TEST AT LEAST ONCE EVERY YEAR USING A PORTABLE ANALYZER AND AQMD APPROVED TEST METHOD OR, IF NOT AVAILABLE, A NON-AQMD APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.~~

~~[RULE 3004 (a)(4)]~~

9: ~~THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSION FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THIS EQUIPMENT HAS COMBUSTED ONE MILLION GALLONS OF DIESEL FUEL, TO BE~~

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~~COUNTED CUMULATIVELY OVER A FIVE YEAR PERIOD. THE INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS. IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED THAT LAST MORE THAN THREE MINUTES IN ANY ONE HOUR, THE OPERATOR SHALL EITHER:~~

~~A. TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN THE SAME FASHION AS DEVIATIONS ARE REQUIRED TO BE REPORTED IN SECTION K OF THIS PERMIT; OR~~

~~B. HAVE A CARB CERTIFIED SMOKE READER DETERMINE COMPLIANCE WITH THE OPACITY STANDARD, USING EPA METHOD 9 OR THE PROCEDURES IN THE CARB MANUAL "VISIBLE EMISSION EVALUATION", WITHIN THREE BUSINESS DAYS AND REPORT ANY DEVIATIONS TO AQMD.~~

~~IN ADDITION, THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:~~

~~A. STACK OR EMISSION POINT IDENTIFICATION;~~

~~B. DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS;~~

~~C. DATE AND TIME VISIBLE EMISSION WAS ABATED; AND~~

~~D. VISIBLE EMISSION OBSERVATION RECORDED BY A CERTIFIED SMOKE READER.~~

~~[RULE 3004 (a)(4)]~~

Emissions and Requirements:

8. 12. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

NOx: ~~30~~ 9 PPMV FOR GASEOUS FUELS, RULE 1146

NOx: 40 PPMV FOR NON-GASEOUS FUELS, RULE 1146

CO: 400 PPMV, RULE 1146

CO: 2000 PPMV, RULE 407

SO_x: 500 PPMV, RULE 407

PM: 0.1 GR/SCF, RULE 409

BACKGROUND

San Antonio Community Hospital ("SACH") (ID 14437) is a premier acute health care facility that provides a comprehensive range of medical services. The facility is a Title V facility, but not RECLAIM. The Title V renewal facility permit was issued on 11/1/11, under A/N 521403.

On 1/4/11, Advanced Environmental Controls submitted on behalf of SACH A/N 517738 to retrofit the Trane-Murray boiler (Permit No. G14080) with a new Power Flame burner to meet the 9 ppm NOx limit by 1/1/13. On 1/27/11, SACH submitted A/N 518430, the associated Title V revision application. The Rule 1146 compliance plan, as amended under A/N 516275,

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extended the full compliance date from January 1, 2012, the Rule 1146(c)(1)(G) compliance date, to January 1, 2013, pursuant to Rule 1146(e)(5). Subpart (e)(5) provides an extension for earthquake damaged facilities that meet certain requirements.

PROCESS DESCRIPTION

The Trane-Murray boiler will be modified to replace the Coen burner with a new Power Flame burner, both at 31 MMBtu/hr. The Coen burner is permitted to use natural gas, methanol, propane, or fuel oil. The Power Flame burner will use natural gas, with fuel oil stand-by. The flue gas recirculation will be removed.

EMISSIONS CALCULATIONS

A/N 517738—Trane-Murray Boiler Burner Replacement

- a. G14080 (A/N 516182)—Current Burner, 31 MMBtu/hr
As G14080 is for an administrative change, the application file for F58535 (A/N 406908) was reviewed.

Prior Emissions, F58535 (application file missing from On-Base, but evaluation was received from Engineer Hemang Desai)

Operating schedule: 52 wk/yr, 7 days/wk, 24 hr/day

Rating is 31.4 MMBtu/hr (later corrected to 31 MMBtu/hr on G14080).

CO = 2.31 lb/hr = 55.44 lb/day 30 DA = 55 lb/day
EF = 100 ppm (BACT for watertube)

NOx = 1.14 lb/hr = 27.36 lb/day 30 DA = 27 lb/day
EF = 30 ppm

PM₁₀ = 0.23 lb/hr = 5.52 lb/day 30 DA = 5 lb/day
EF = 7.6 lb/mmcf, AP-42

ROG = 0.16 lb/hr = 3.84 lb/day 30 DA = 4 lb/day
EF = 5.5 lb/mmcf, AP-42

SOx = 0.02 lb/hr = 0.48 lb/day 30 DA = 0 lb/day
EF = 0.6 lb/mmcf, AP-42

- b. A/N 517738—New Burner, 31 MMBtu/hr
Operating Schedule: 52 wk/yr, 7 days/wk, 24 hr/day

CO: 400 ppmv per Rule 1146 (Power Flame 1 Year Warranty)—However, use 100 ppm BACT limit, same as F58535, since new burner can probably meet the 100 ppm.

NOx: 9 ppmv per Rule 1146 (Power Flame 1 Year Warranty)

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ROG, PM, SO_x: AER default emission factors for natural gas fired boiler are the same as AP-42 EFs.

CO, PM₁₀, ROG, SO_x = No change

$$\begin{aligned} \text{NO}_x, \text{ lbs/hr} &= (31,000,000 \text{ Btu/hr}) (8710 \text{ dscf}/10^6 \text{ Btu}) (9 \text{ ppm per Rule 1146}/10^6) \\ &\quad (20.9/(20.9-3.0)) (46 \text{ lbs NO}_x/379 \text{ scf}) = 0.34 \text{ lb/hr} \\ \text{lbs/day} &= (0.34 \text{ lb/hr}) (24 \text{ hr/day}) = 8.16 \text{ lb/day} \\ 30 \text{ DA} &= 8.16 \text{ lb/day} \end{aligned}$$

c. Change in Emissions

$$\begin{aligned} \text{CO} &= 0 \text{ lb/day} \\ \text{NO}_x &= 8.16 \text{ lb/day} - 27 \text{ lb/day} = -18.84 \text{ lb/day} \\ \text{PM}_{10} &= 0 \text{ lb/day} \\ \text{ROG} &= 0 \text{ lb/day} \\ \text{SO}_x &= 0 \text{ lb/day} \end{aligned}$$

EVALUATION OF COMPLIANCE WITH MAJOR RULES

The operation of the boiler is expected to comply with all applicable SCAQMD rules and regulations as follows:

Rule 212—Standards for Approving Permits

Public notice is **not** required for the modification of the boiler because the modification will not result in an increase of any emissions as the rating will remain the same.

Rule 401—Visible Emissions

With proper operation and maintenance, visible emissions are not expected from the operation of the boiler.

Rule 402—Nuisance

With proper operation and maintenance, the boiler is not likely to create a public nuisance. A search of the District's complaints database for the last five years indicates no public complaints have been filed.

Rule 407—Liquid and Gaseous Air Contaminants

The boiler is expected to comply with the Rule 1146 limit of 400 ppmv CO, which supersedes the CO concentration limit of 2000 ppmv required by this rule. See Rule 1146 discussion, below.

Rule 409—Combustion Contaminants

With the use of natural gas, the operation of the boiler is anticipated to comply with the limit of 0.1 grains per cubic foot of gas corrected to 12 percent of carbon dioxide.

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Rule 431.1—Sulfur Content of Gaseous Fuels

With the use of natural gas, compliance is anticipated as the facility purchases natural gas from a gas utility required to sell natural gas with less than 16 ppmv of sulfur compounds calculated as H₂S. Condition no. 10 requires compliance with this rule.

Rule 431.2—Sulfur Content of Liquid Fuels

When firing on fuel oil, the operation of the boilers is expected to comply with the requirement that diesel fuel contain 15 ppm or less sulfur by weight. On 3/29/11, AEC forwarded a Power Flame 1 Year Warranty that guaranteed 80 ppm NO_x for No. 2 fuel oil. On 5/11/11, SACH agreed to use Amber 363 as suggested by Southern California Boiler. On 5/11/11, AEC forwarded a Power Flame 1 Year Warranty that guaranteed 40 ppm NO_x for Amber 363 oil.

An Amber 363-II specification sheet from Dion and Sons, Inc. states the sulfur content is typically less than 1 ppm sulfur. Condition no. 10 requires compliance with this rule.

Rule 1146—Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters

Paragraph (a)—This rule is applicable to boilers of equal to or greater than 5 MMBtu/hr rated heat input capacity. This is applicable to the two existing boilers (G14080 and G14081).

Paragraph (b)(7)--“Group II Unit” means “any unit burning gaseous fuels, excluding digester and landfill gases, with a rated heat input less than 75 million Btu per hour down to and including 20 million Btu per hour, excluding thermal fluid heaters.” The two existing boilers are Group II units: (1) G14080, Trane-Murray, 31 MMBtu/hr, and (2) G14081, Cleaver Brooks, 32 MMBtu/hr.

Subparagraph (c)(1)(B)—All boilers fired on **non-gaseous fuels** (e.g., Amber 363) are required to meet 40 ppm NO_x by September 5, 2008. Power Flame Inc. provided a guarantee for 40 ppm on Amber 363, which was forwarded by Southern California Boiler, in 5/11/11 e-mail. Condition no. 5 will limit NO_x to 40 ppmv, and condition no. 7 will require an initial source test.

Subparagraph (c)(1)(G)--Subparagraph (c)(1)(G) is applicable to Group II units, 75% or more of units (by heat input).

The requirements for (c)(1)(G) are summarized below:

Rule Reference	Category	Limit	Submit Compliance Plan on or before	Submit Application for Permit to Construct on or before	Unit Shall be in Full Compliance on or before
(c)(1)(G)	Group II Units 75% or more of units (by heat input)	9 ppm or 0.011 lbs/10 ⁶ Btu	January 1, 2010	January 1, 2011	January 1, 2012

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On 12/18/09, SACH filed A/N 504687, a Rule 1146 compliance plan application, for the two existing boilers at the facility. The boilers are: (1) G14080, Trane-Murray, 31 MMBtu/hr, and (2) G14081, Cleaver Brooks, 32 MMBtu/hr. On 3/5/10, the District approved the compliance plan application. The compliance plan was approved based on SACH's proposal that both boilers would meet the requirements of Rule 1146(e)(5). The full compliance date for the two boilers was extended from January 1, 2012, the Rule 1146(c)(1)(G) compliance date, to January 1, 2013, pursuant to Rule 1146(e)(5). Subpart (e)(5) provides an extension for earthquake damaged facilities that meet certain requirements.

On 11/17/10, SACH submitted A/N 516275, a compliance plan application to amend the plan approved under A/N 506487, because the facility realized belatedly that the Cleaver Brooks boiler is a low usage boiler. On 1/13/11, the District approved the compliance plan based on the facility coming into compliance with an oxides of nitrogen (NO₂) limit of 9 ppm or less on or before January 1, 2013 for the Trane-Murray boiler (Permit No. G14080), and an oxides of nitrogen (NO₂) limit of 30 ppm or less on or before January 1, 2015 for the Cleaver Brooks boiler (Permit No. G14081) per Rule 1146(e)(3).

The application under evaluation is for a Permit to Construct to retrofit the Trane-Murray boiler (Permit No. G14080) with a new Power Flame burner to meet the 9 ppm NO_x limit by 1/1/13. The application was submitted on 1/4/11, after the 1/1/11 deadline.

Power Flame Inc. provided a guarantee for 9 ppm NO_x for natural gas, which was forwarded by Southern California Boiler, in a 5/11/11 e-mail. Condition no. 5 will limit NO_x to 9 ppmv, and condition no. 7 will require an initial source test.

Paragraph (c)(4)—The CO limit is 400 ppmv, corrected to 3% O₂. Power Flame Inc. provided a guarantee for 400 ppm CO, which was forwarded by Southern California Boiler, in a 5/11/11 e-mail. Condition no. 5 will limit CO to 400 ppmv for natural gas and Amber 363. Condition no. 7 will require an initial source test to demonstrate compliance.

Paragraph (c)(9)—This paragraph sets forth the requirements for the Rule 1146 compliance plan application. As discussed above, SACH is in compliance with these requirements.

Paragraph (d)(3)—All parts per million emission limits specified in subdivision (c) are referenced at 3 percent volume stack gas oxygen on a dry basis averaged over a period of 15 consecutive minutes. Condition no. 7 for the initial source test requires the sampling times to be at least 15 consecutive minutes for maximum, minimum, and normal loads each.

Paragraph (d)(4)—Compliance with the NO_x and CO emission requirements of paragraph (c)(1) shall be determined using a District approved contractor under the Laboratory Approval Program according to the following procedures:

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- (A) District Source Test Method 100.1—Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling (March 1989), or

Condition no. 7 requires the use of Method 100.1, and condition no. 8 requires a LAP-approved contractor.

Paragraph (d)(6)—Compliance with the NOx emission requirements in paragraph (d)(4) shall be conducted once:

- (A) every three years for units with a rated heat input greater than or equal to 10 million Btu per hour, except for units subject to paragraph (c)(6) (CEMS).

Condition no. 10 requires compliance with Rule 1146.

Paragraph (d)(8)—Any owner or operator of units subject to this rule shall check NOx emissions with a portable NOx, CO and oxygen analyzer according to the Protocol for the Periodic Monitoring of Nitrogen Oxides, Carbon Monoxide, and Oxygen from Units Subject to South Coast Air Quality Management District Rules 1146 and 1146.1 according to the following schedule:

- (A) On or after July 1, 2009, the owner or operator of units subject to paragraph (c)(1) shall check NOx emissions at least monthly or every 750 unit operating hours, whichever occurs later.

Condition no. 10 requires compliance with Rule 1146.

Paragraph (d)(9)—An owner or operator shall opt to comply with the requirements as applied to CO emissions specified in paragraph (d)(8) or subparagraph:

- (A) (d)(6)(A) for units greater than or equal to 10 mmbtu/hr.

Condition no. 10 requires compliance with Rule 1146. The facility may opt to perform testing with a portable analyzer pursuant to Rule 1146(d)(8), or perform source testing pursuant to (d)(6)(A).

Regulation XIII—New Source Review

- Rule 1303(a)—BACT
- Rule 1303(b)(1)—Modeling
- Rule 1303(b)(2)—Offsets

BACT, modeling, and offset requirements are not triggered because the boiler retrofit will not result in an increase in emissions because the rating will not change.

Rule 1401—New Source Review of Toxic Air Contaminants

Risk assessment requirements are not triggered because the boiler retrofit will not result in an increase in toxic emissions because the rating will not change.

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Regulation XXX—Title V Permits

- Rule 3003—Applications

As noted above, this facility is not in the RECLAIM program. The proposed project is considered as a “minor permit revision” for non-RECLAIM pollutants and hazardous air pollutants (HAPs) to the Title V permit for this facility. Rule 3000(b)(12) specifies that a “minor permit revision” includes, but is not limited to any Title V permit revision that:

- Rule 3000(b)(12)(A)(vi)—Does not result in an increase in emissions of a pollutant subject to Regulation XIII -- New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP).

The proposed burner replacement is not expected to result in an increase in emissions of a pollutant subject to Regulation XIII - New Source Review (non-RECLAIM pollutants) or a hazardous air pollutant (HAP), and therefore is considered as a “minor permit revision” pursuant to Rule 3000(b)(12)(A)(vi).

This proposed project is the first permit revision (Rev. 7) to the Title V renewal permit issued to this facility on November 1, 2011 as Rev. 6.

Permit Revisions, Emissions Changes and Cumulative Emissions

The following table summarizes the permit revisions since the renewal Title V permit was issued, the associated emissions changes, and the total cumulative emissions.

Facility Permit Rev No	Revision	HAP	VOC	NOx	PM ₁₀	SOx	CO
6	Title V Renewal, issued 11/1/11						
7	Proposed First Permit Revision, A/N 518430—Retrofit Trane-Murray Boiler (A/N 517738)	0	0	0	0	0	0
	Cumulative Total	0	0	0	0	0	0
	Maximum Daily for De Minimis Significant	30	30	40	30	60	220

- Rule 3004—Permit Types and Content

Subdivision (a)(4) provides for periodic monitoring. Periodic monitoring is required by Title V for the SIP-approved, federally enforceable rules that do not contain sufficient monitoring requirements to assure compliance with the emission limitations or other requirements. The 5/13/94 version of Rule 1146 did not require source testing or portable analyzer testing. Periodic monitoring conditions nos. 7 and 8 on G14080 were developed for the 5/13/94 version of Rule 1146. Subsequently, Rule 1146 was amended on 11/17/00 and again on 9/5/08. Current Rule 1146 requirements contain sufficient monitoring requirements. Therefore, periodic monitoring conditions no. 7 and 8 will be removed.

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Periodic monitoring condition no. 9 requires visible emission inspection. This condition will be removed because such a condition is not typically applicable to natural gas fired equipment.

RECOMMENDATION

The burner replacement is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a "minor permit revision," it is exempt from the public participation requirements under Rule 3006(b). A proposed permit incorporating this permit revision is required to be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility.