



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

4/2/2010

Jeff Disrud
FAIRVIEW HOSPITAL
18101 LORAIN AVE
Cleveland, OH 44111

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1318002944
Permit Number: P0105234
Permit Type: Initial Installation
County: Cuyahoga

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern
Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
FAIRVIEW HOSPITAL**

Facility ID: 1318002944
Permit Number: P0105234
Permit Type: Initial Installation
Issued: 4/2/2010
Effective: 4/2/2010
Expiration: 4/2/2020



Division of Air Pollution Control
Permit-to-Install and Operate
for
FAIRVIEW HOSPITAL

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Authorization

Facility ID: 1318002944
Application Number(s): A0038027, A0038572
Permit Number: P0105234
Permit Description: Initial installation of three (3) Cleaver-Brooks 12.552 mmBtu/hr natural gas/No. 2 fuel oil
powered boiler
Permit Type: Initial Installation
Permit Fee: \$1,200.00
Issue Date: 4/2/2010
Effective Date: 4/2/2010
Expiration Date: 4/2/2020
Permit Evaluation Report (PER) Annual Date: July 1 - June 30, Due Aug 15

This document constitutes issuance to:

FAIRVIEW HOSPITAL
18101 LORAIN AVE
Cleveland, OH 44111

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Chris Korleski
Director



Authorization (continued)

Permit Number: P0105234
Permit Description: Initial installation of three (3) Cleaver-Brooks 12.552 mmBtu/hr natural gas/No. 2 fuel oil powered boiler

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name: Three Boilers

Emissions Unit ID:	B005
Company Equipment ID:	Cleaver-Brooks 12.552 mmBtu/hr Boiler
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B006
Company Equipment ID:	Boiler # 2 - Cleaver-Brooks 12.552 mmBtu/hr
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B007
Company Equipment ID:	Boiler # 3 - Cleaver-Brooks 12.552 mmBtu/hr
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Cleveland Division of Air Quality in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

B. Facility-Wide Terms and Conditions

Final Permit-to-Install and Operate

FAIRVIEW HOSPITAL

Permit Number: P0105234

Facility ID: 1318002944

Effective Date: 4/2/2010

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Three Boilers: B005, B006, B007

EU ID	Operations, Property and/or Equipment Description
B005	Cleaver-Brooks 12.552 mmBtu/hr natural gas/No. 2 fuel oil powered boiler
B006	Cleaver-Brooks 12.552 mmBtu/hr natural gas/No. 2 fuel oil powered boiler
B007	Cleaver-Brooks 12.552 mmBtu/hr natural gas/No. 2 fuel oil powered boiler

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	From burning Natural Gas CO 1.0 lbs/hr and 4.4 tons per year (TPY) NOx 1.2 lbs/hr and 5.3 TPY OC 0.14 lbs/hr and 0.6 TPY From burning No. 2 Fuel Oil CO 0.44 lbs/hr and 2 TPY NOx 1.75 lbs/hr and 7.7 TPY PE 0.2 lbs/hr and 0.9 TPY SO ₂ 0.08 lb/mmbtu and 4.3 TPY See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. i.

Final Permit-to-Install and Operate

FAIRVIEW HOSPITAL

Permit Number: P0105234

Facility ID: 1318002944

Effective Date: 4/2/2010

c.	OAC rule 3745-31-05(F), as effective 12/01/2006	SO ₂ emissions shall not exceed 0.08 lbs SO ₂ /mmBtu when burning No.2 fuel oil and 4.3 TPY. Fuel oil sulfur content shall not exceed 15 parts per million sulfur content or 0.08 weight percent sulfur See b)(2)b. ii.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (PE) from any stack shall not exceed 20% opacity, as a six-minute average
e.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 lbs/mmBtu of actual heat input.
f.	OAC rule 3745-18-06(D)	When burning No. 2 fuel oil, the emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(A)(3) and (F).
g.	40 CFR Part 60 Subpart Dc	The SO ₂ emission limitation specified by this rule is less stringent than the SO ₂ emission limitation established pursuant to OAC rule 3745-31-05(A)(3) and (F). See b)(2)d.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.
 - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to CO, NO_x, OC, or PE emissions from this air contaminant source when burning either Natural Gas or No. 2 fuel oil since the uncontrolled potential to emit for CO, NO_x, OC, and PE is less than 10 tons per year.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to SO₂ emissions from this air contaminant source when burning Natural Gas since the uncontrolled potential to emit for SO₂ is less than 10 tons per year.

- ii. Permit to Install/Operate P0105234 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment), as proposed by the permittee, for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3) for SO₂ when burning No. 2 fuel oil:

- (a) Ultra Low Sulfur (≤ 15 ppm sulfur content) No. 2 Fuel Oil

- c. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).
 - d. The particulate emissions limits from 40 CFR Part 60, Subpart Dc are not applicable to this emissions unit.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas and/or ultra low sulfur (≤ 15 ppm sulfur content) No. 2 fuel oil in this emissions unit.
- (2) The quality of No. 2 fuel oil received for burning in this emissions unit shall have a combination of sulfur content and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 0.08 lbs/mmBtu of actual heat input and the sulfur content limitation for No. 2 fuel oil of less than or equal to 0.08 weight per cent sulfur.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

- a. Alternative 1:

- For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

- b. Alternative 2:

- The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emissions unit is in operation. If

additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing." The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lb/mmBtu). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04 (F)].

- c. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Cleveland Division of Air Quality (CDAQ).

e) Reporting Requirements

- (1) Pursuant to the NSPS, the permittee is required to report the following information at the appropriate times (if the information has not already been reported):
 - a. Construction date (no later than 30 days after such date);
 - b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
 - c. Actual start-up date (within 15 days after such date); and,
 - d. Date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to the CDAQ and to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P.O. Box 163669
Columbus, Ohio 43216-3669

- (2) The permittee shall notify the CDAQ in writing of any fuel burned in this emissions unit other than natural gas or Ultra Low Sulfur (≤ 15 ppm) No. 2 fuel oil.
- (3) The permittee shall notify the CDAQ in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the record keeping requirements from d)(1) above.
- (4) The notifications identified in e)(2) and e)(3) shall include a copy of such record and shall be sent to the CDAQ within 45 days after the deviation occurs.
- (5) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall

cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b) shall be determined in accordance with the following methods:

a. Emissions Limitation(s) - From Natural Gas Combustion

CO 1.0 lbs/hr and 4.4 TPY
NOx 1.2 lbs/hr and 5.3 TPY
OC 0.07 lbs/hr and 0.3 TPY

Applicable Compliance Method

Compliance with the hourly emissions limitations shall be determined by multiplying the appropriate emissions factor below, taken from the U.S. EPA reference document AP-42, 5th edition, Compilation of Air Pollution Emissions Factors, Section 1.4, Table 1.4-1 and 1.4-2, by the input capacity (12.6 mmBtu/hr) and dividing by 1,020 Btu/scf).

$(\text{MM BTU/hr}) (\text{lb /MM scf}) / (1,020 \text{ BTU/scf}) = \text{lb/hr}$

CO – 84 lbs/mmscf
NOx – 100 lbs/mmscf
OC – 11 lbs/mmscf

Compliance with each annual limit shall be determined by multiplying the allowable lb/hr emission limit by the actual operating hours (hrs/yr) and dividing by 2000 lbs/ton.

b. Emission Limitation(s) – From No. 2 Fuel Oil Combustion

CO 0.44 lbs/hr and 2 TPY
NOx 1.75 lbs/hr and 7.7 TPY
PM 0.2 lbs/hr and 0.9 TPY

Applicable Compliance Method

Compliance with the hourly emissions limitations shall be determined by multiplying the appropriate emissions factor below, taken from the U.S. EPA reference document AP-42, 5th edition, Compilation of Air Pollution Emissions Factors, Section 1.3, Table 1.3-1 and 1.3-3, by the number of gallons of No. 2 fuel oil consumed per hour (unit's maximum consumption rate is 87.5 gallons/hr).

CO – 5 lbs/1000 gallons
NOx – 20 lbs/1000 gallons
PM – 2 lbs/1000 gallons

Compliance with each annual limit shall be determined by multiplying the number of gallons of No. 2 fuel oil burned annually by the appropriate emissions factor above and divided by 1 ton/2000lbs.

- c. Emission Limitation(s) - From Ultra Low Sulfur No. 2 Fuel Oil Combustion
Sulfur Dioxide emissions shall not exceed 0.08 lbs/mmBtu and 4.3 TPY

Applicable Compliance Method:

The emissions limitations have been derived from specific information submitted by the facility's fuel oil supplier. The facility shall use the sulfur content of the oil in determining compliance with these limitations.

Compliance with the lb/mmBtu emission limitation shall be based upon the record keeping and reporting requirements in sections d) and e).

Compliance with the annual emission limitation may be demonstrated by multiplying the SO₂ emissions factor derived from AP-42 "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3, Table 1.3-1 (7/98) by the sulfur content. $142 * S$ (S = % sulfur content)

Where (S), the sulfur content, is equal to 0.08%. The resultant calculated sulfur content is equal to 11.36 lbs SO₂/1000 gallons.

Multiplying 11.36 lbs SO₂/1000 gallons by the maximum rated fuel oil input capacity of the emissions unit (in gallons/hr), then multiplying by 8760 hrs/yr and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the lb/mmBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1- 4, and 6.

- d. Emission Limitation(s)
Fuel oil sulfur content shall not exceed 15 parts per million sulfur content or 0.08 weight percent sulfur

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirement described in paragraph d)(1).

- e. Emission Limitation(s)
20% opacity, as a six-minute average

Applicable Compliance Method(s):

Compliance shall be determined through visible emission observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR, Part 60, Appendix A, Method 9.

- f. Emission Limitation(s):
PE shall not exceed 0.020 lbs/mmBtu of actual heat input

Applicable Compliance Methods(s):

If required, the permittee shall demonstrate compliance with the lb/mmBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1- 5.

g) Miscellaneous Requirements

(1) Potential To Emit Calculations:

a. Natural Gas Emissions

CO

$$12.6\text{mmBtu/hr} * 84\text{lbs CO/ mmscf} * 1 \text{ scf /1020 Btu} = \mathbf{1.0 \text{ lb CO/hr}}$$
$$1.0 \text{ lb CO/hr} * 8760\text{hr/year} * 1 \text{ ton/2000lbs} = \mathbf{4.4 \text{ TPY CO}}$$

NOx

$$12.6 \text{ mmBtu/hr} * 100\text{lbs Nox/ mmscf} * 1 \text{ scf /1020Btu} = \mathbf{1.2 \text{ lbs Nox/hr}}$$
$$1.2 \text{ lbs Nox/hr} * 8760\text{hr/year} * 1 \text{ ton/2000lbs} = \mathbf{5.3 \text{ TPY NOx}}$$

OC

$$12.6\text{mmBtu/hr} * 11\text{lbs OC/ mmscf} * 1 \text{ scf /1020Btu} = \mathbf{0.14 \text{ lbs OC/hr}}$$
$$0.14 \text{ lbs OC} * 8760 \text{ hr/year} * 1 \text{ ton/2000lbs} = \mathbf{0.6 \text{ TPY OC}}$$

PM

$$12.6\text{mmBtu/hr} * 7.6 \text{ lbs PM/ mmscf} * 1 \text{ scf /1020Btu} = \mathbf{0.1 \text{ lbs PM/hr}}$$
$$0.1 \text{ lbs PM/hr} * 8760 \text{ hr/yr} * 1 \text{ ton/2000lbs} = \mathbf{0.4 \text{ TPY PM}}$$

Limitations - OAC 3745-17-10 (B)(1) PM shall not exceed 0.020lbs PM/mmBtu

$$7.6 \text{ lbs PM/ mmscf} * 1 \text{ scf /1020Btu} = \mathbf{0.007 \text{ lbs PM/mmBtu}}$$

SO2

$$12.6\text{mmBtu/hr} * 0.6 \text{ lbs SO2/ mmscf} * 1 \text{ scf/1020Btu} = \mathbf{0.01 \text{ lbs/hr}}$$
$$0.01 \text{ lbs/hr} * 8760 \text{ hr/year} * 1 \text{ ton/2000lbs} = \mathbf{0.04 \text{ TPY SO2}}$$

b. Fuel Oil No 2. Emissions

Carbon Monoxide

$$5 \text{ lbs CO/1000 gallons} * 87.5 \text{ gallons/hr} = \mathbf{0.44 \text{ lbs CO/ hr}}$$
$$0.44 \text{ lbs CO/hr} * 8760\text{hr/yr} * 1 \text{ ton/2000 lbs} = \mathbf{2 \text{ TPY CO}}$$

Nitrogen Oxides

$$20 \text{ lbs Nox/1000 gallons} * 87.5 \text{ gallons/hr} = \mathbf{1.75 \text{ lbs NOx/hr}}$$
$$1.75 \text{ lbs NO x/hr} * 8760\text{hr/yr} * 1\text{ton/2000lbs} = \mathbf{7.7 \text{ TPY NOx}}$$

Organic Compounds

$$0.252 \text{ lbs/1000 gallons} * 87.5 \text{ gallons/hr} = \mathbf{0.022 \text{ lbs TOC/ hr}}$$
$$0.022 \text{ lbs TOC/hr} * 8760\text{hr/yr} * 1 \text{ ton/2000 lbs} = \mathbf{0.1 \text{ TPY TOC}}$$

Particulate Matter

$$2 \text{ lbs PM/ 1000 gallons} * 87.5 \text{ gallons/hr} = \mathbf{0.2 \text{ lbs PM/hr}}$$
$$0.2 \text{ lbs PM/hr} * 8760 \text{ hr/yr} * 1\text{ton/2000 lbs} = \mathbf{0.9 \text{ tons PM/yr}}$$

Limitations - OAC 3745-17-10 (B)(1) PM shall not exceed 0.020lbs/mmBtu

$$2 \text{ lbs PM/ 1000 gallons} * 1 \text{ gallon/0.140mmBtu} = \mathbf{0.014 \text{ lbs PM/mmBtu}}$$

SO2

$$11.36 \text{ lbs SO2/1000 gallons} * 87.5 \text{ gallons/hr} = \mathbf{0.99 \text{ lb SO2/hr}}$$
$$0.99 \text{ lb SO2/hr} * 8760 \text{ hr/yr} * 1 \text{ ton/2000 lbs} = \mathbf{4.3 \text{ TPY SO2}}$$

Emission factors from AP - 42

Final Permit-to-Install and Operate

FAIRVIEW HOSPITAL

Permit Number: P0105234

Facility ID: 1318002944

Effective Date: 4/2/2010

$142 * S$ (S = % sulfur content) - (Table 1.3-1)

Sulfur content (S) = 0.08

$142 * 0.08 = 11.36$ lbs SO₂/1000 gallons