



Environmental
Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

Certified Mail

8/2/2011

Michael Valigosky
UNIVERSITY OF TOLEDO - MAIN CAMPUS
2801 W BANCROFT ST
MS219
TOLEDO, OH 43606

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

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0448010805
Permit Number: P0108314
Permit Type: Initial Installation
County: Lucas

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, Toledo Blade. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

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

Cc: U.S. EPA Region 5 Via E-Mail Notification
TDES; Michigan; Indiana; Canada



Permit Strategy Write-Up

1. Check all that apply:

xSynthetic Minor Determination

Netting Determination

2. Source Description:

The University of Toledo (UT) Main Campus, located at 2801 W. Bancroft in Toledo, Ohio, has submitted an application for two 600 hp steam generators (25.8 mmBtu/hr). These generators are intended to replace two existing 600hp steam generators B015 and B016 that were previously installed in the central steam plant in Savage Hall under PTI 04-01507 issued 7/22/2008 Central Steam Plant at Savage Arena. The new steam generators will also be natural gas fired, with No. 2 (distillate) fuel oil back-up firing capabilities.

3. Facility Emissions and Attainment Status:

Facility-wide allowable emissions are 44.62 tpy of CO 54.10 tpy of NOx, 35.80 tpy of SO2, 2.00 tpy of PE, and 2.72 tpy of VOC due to a combined fuel usage restriction of 1.0 billion cubic feet of natural gas per year and the 1,000,000 gallons per year of fuel oil.

Table with 2 columns: Pollutants, Air Quality Description. Rows include Particulate Matter, PM10, Sulfur Dioxide, Organic Compounds, Nitrogen Oxides, Carbon Monoxide, and Lead.

4. Source Emissions:

Table with 6 columns: Pollutant, CO, NOx, PE, SO2, VOC. Rows include Single emission unit and Two emission units.

5. Conclusion:

The permit is non-controversial and should be issued draft/final to ensure enforceability of the exemption from TV major source status.



6. Please provide additional notes or comments as necessary:

Applicable Regulations

OAC rule 3745-31-05(A)(3)	Best available technology will be set at the manufacturer's level of emissions or AP-42 and 10% opacity as a six minute average
OAC rule 3745-31-05(A)(3)(a)(ii)	Exemption from BAT for pollutants <10 TPY; will not apply until U.S. EPA approves SIP changes – BAT will be applicable until the SIP changes are approved: short term limitations will be set for NOX and SO2.
OAC rule 3745-31-05(D)	The permittee has requested federally enforceable restrictions on these emission units in order to avoid major source review
OAC 3745-31-05(E)	The permittee shall permanently shut down emissions units B015 and B016 located at Savage Hall upon startup of the units under this permit to install, in order to avoid state modeling.
OAC rule 3745-17-07(A)(1)	20% opacity as a 6-minute average, unless otherwise specified by the rule
OAC rule 3745-17-10(B)(1)	0.020 pound PE per million Btu actual heat input; less stringent than BAT.
OAC rule 3745-18-06(A)	exemption from OAC rule 3745-18-06(D) on days when only natural gas is combusted
OAC rule 3745-18-06(D)	1.6 pounds of SO2 per million Btu of actual heat input when distillate oil is combusted; less stringent than NSPS
OAC rule 3745-110-03	NOx RACT – exempt per OAC rule 3745-110-03(J)(16) – Any effective source issued a valid operating permit by OEPA that restricts such effective source to 25 tons/yr or less of NOx emissions. These boilers are 16.74 tons NOx/yr each with fuel oil restriction.
40 CFR Part 60 Subpart Dc	
§ 60.40c	Applicability and delegation of authority. (a) the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)) or less, but greater than or equal to 2.9 MW (10 MMBtu/hr). (d) no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. (h)For (distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr)), compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.
§ 60.40d	imposes no additional particulate restrictions on oil fired steam generating units of less than 8.7 MW (30 mmBtu/hr).
40 CFR Part 63 Subpart JJJJJJ	
§ 63.11194	(a)(2) ... new or reconstructed industrial, commercial, or institutional boiler within a subcategory of coal, biomass and oil as defined in § 63.11237 located at an area source.



§ 63.11201	<p>(a) You must comply with each emission limit specified in Table 1 of this subpart that applies to your boiler. (0.03 pounds of particulate matter per mmBtu of heat input)</p> <p>(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler. (Minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures. Conduct a tune-up of the boiler biennially as specified in § 63.11223.)</p>
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Source Emissions

The AP-42 emission factors for natural gas AP-42, 5th Edition, Section 1.3, Table 1.3-1 (5/10) and No. 2 distillate fuel oil AP-42, 5th Edition, Section 1.4, Table 1.4-1 (7/98) will be used as the first estimate for each boiler's regulated pollutants; the worst case or largest emission factor will be used to establish the emissions unit PTE:

CO gas - $(84 \text{ lb/mmBtu}) / (1020 \text{ mmBtu/mmBtu}) = 0.082 \text{ lb/mmBtu}$
 Emission factor for natural gas from boiler manufacturer provided by permittee was 0.080 lb CO/mmBtu.
 CO oil - $(5 \text{ lb/1000 gal}) (1000 \text{ gal/140 mmBtu}) = 0.036 \text{ lb/mmBtu}$
 Emission factor for fuel oil from boiler manufacturer provided by permittee was 0.040 lb CO/mmBtu.
 PTE gas = $25.8 \text{ mmBtu/hr} (0.082 \text{ lb/mmBtu}) = 2.12 \text{ lb/hr}$
 $2.12 \text{ lb/hr} (8760 \text{ hrs/yr}) / (2000 \text{ lb}) = 9.29 \text{ tpy each}$

NOx gas - $(100 \text{ lb/mmBtu}) / (1020 \text{ mmBtu/mmBtu}) = 0.098 \text{ lb/mmBtu}$
 Emission factor for natural gas from boiler manufacturer provided by permittee was 0.080 lbNOx/mmBtu
 oil - $(20 \text{ lb/1000 gal}) (1000 \text{ gal/140 mmBtu}) = 0.143 \text{ lb/mmBtu}$
 Emission factor for fuel oil from boiler manufacturer provided by permittee was 0.190 lbNOx /mmBtu.
 PTE oil = $25.8 \text{ mmBtu/hr} (0.190 \text{ lb/mmBtu}) = 4.90 \text{ lb/hr}$
 $4.90 \text{ lb/hr} (8760 \text{ hr/yr}) / (2000 \text{ lb}) = 21.46 \text{ tpy each}$

PE gas - $(1.9 \text{ lb/mmBtu}) / (1020 \text{ mmBtu/mmBtu}) = 0.002 \text{ lb/mmBtu}$
 Emission factor for natural gas from boiler manufacturer provided by permittee was 0.0075 lb PE/mmBtu
 Note: this emissions factor is assumed to be in error as the value is equivalent to the AP-42 value for PM10 (7.6 pounds PM10 per 1000 scf)
 PE oil - $(2 \text{ lb/1000 gal}) (1000 \text{ gal/140 mmBtu}) = 0.014 \text{ lb/mmBtu}$
 Emission factor for fuel oil from boiler manufacturer provided by permittee was 0.012 lb PE/mmBtu
 PTE oil = $25.8 \text{ mmBtu/hr} (0.014 \text{ lb/mmBtu}) = 0.36 \text{ lb/hr}$
 $0.36 \text{ lb/hr} (8760 \text{ hrs/yr}) / (2000 \text{ lb}) = 1.58 \text{ tpy each}$

SO2 gas - $(0.6 \text{ lb/mmBtu}) / (1020 \text{ mmBtu/mmBtu}) = 0.0006 \text{ lb/mmBtu}$
 SO2 oil - $(142S \text{ lb/1000 gal}) (1000 \text{ gal/140 mmBtu}) = 0.507 \text{ lb/mmBtu}$, where S=0.5
 PTE oil = $25.8 \text{ mmBtu/hr} (0.507 \text{ lb/mmBtu}) = 13.08 \text{ lb/hr}$
 $13.08 \text{ lb/hr} (8760 \text{ hrs/yr}) / (2000 \text{ lb}) = 57.29 \text{ tpy each}$

VOC gas - $(5.5 \text{ lb/mmBtu}) / (1020 \text{ mmBtu/mmBtu}) = 0.005 \text{ lb/mmBtu}$
 VOC oil - $(0.34 \text{ lb/1000 gal}) (1000 \text{ gal/140 mmBtu}) = 0.0024 \text{ lb/mmBtu}$
 PTE gas = $25.8 \text{ mmBtu/hr} (0.005 \text{ lb/mmBtu}) = 0.13 \text{ lb/hr}$
 $0.13 \text{ lb/hr} (8760 \text{ hrs/yr}) / (2000 \text{ lb}) = 0.57 \text{ tpy each}$



So, the unrestricted tons pollutant per year evaluation:

Table with 6 columns: Pollutant, CO, NOx, PE, SO2, VOC. Rows include Single emission unit, Two emission units, and PSD significant increase.

Permit Allowable Emissions

The permittee volunteered a facility-wide fuel restriction of 1.0 million gallons per year fuel oil and 1.0 billion cubic feet per year of natural gas to avoid major source status for Title V in PTI 04-01507 as issued 7/22/2008. They have requested that we extend that restriction to include these emissions units.

CO

Where the emissions of natural gas are higher, as with CO where gas is 0.082 lb/mmBtu and oil is 0.040 lb/mmBtu, and the 1.0 billion cubic feet per year of natural gas equates to:

1.0 billion cubic feet/year (1020 mmBtu/mmscf) = 1,020,000 mmBtu/yr

Since 25.8 mmBtu/hr (8760 hours/year) = 226,000 mmBtu, the continuous combustion of natural gas in both units would not exceed the allotment of natural gas, so:

One emissions unit = 226,000 mmBtu (0.082 lb/mmBtu)(T/2000 lb) = 9.29 tpy CO
And for two emissions units = 9.29 tpy CO x 2 = 18.58 tpy CO

The emissions from combusting oil are higher than the emission from natural gas for NOx, PE, and SO2.

1.0 million gallons of fuel oil (140 mmBtu/1000 gal) = 140,000 mmBtu

25.8 mmBtu/hr (8760 hours/year) = 226,000 mmBtu

Therefore either emissions unit is capable of using the entire annual fuel oil allotment when combusting fuel oil.

For NOx this equates to an individual emissions limitation of:

1.0 million gallons of fuel oil (140 mmBtu/1000 gal)(0.190 lb/mmBtu)(T/2000lb) = 13.30 tpyNOx

And the amount of natural gas combusted becomes 226,000 mmBtu/year - 140,000 mmBtu/year = 86,000 mmBtu/year per unit:

86,000 mmBtu/year (0.080 lb/mmBtu)(T/2000 lb) = 3.44 tpyNOx

13.30 tpy oil + 3.44 tpy gas = 16.74 tpyNOx

And for 2 emissions units, since the fuel oil allotment is already used in the first emissions unit:

Combined emissions = 17.51 tpyNOx + 226,000 mmBtu/year (0.080 lb/mmBtu)(T/2000 lb) = 16.74 + 9.04 = 25.78 tpyNOx



For PE:

1.0 million gallon fuel oil (140 mmBtu/1000 gal)(0.014 lb/mmBtu)(T/2000 lbs) = 0.98 tpy PE
86,000 mmBtu/yr(0.002 lb/mmBtu)(T/2000 lb) = 0.09 tpy PE
0.98 (oil) + 0.09 (gas) = 1.07 tpy PE

And for 2 emissions units, since the fuel oil allotment is already used in the first emissions unit:

Combined emissions = 1.07 tpy PE + 226,000 mmBtu/yr (0.002 lb/mmBtu)(T/2000lbs)
= 1.07 + 0.23 = 1.30 tpy

For SO2:

1.0 million gallons fuel oil (140 mmBtu/1000 gal)(0.507 lb/mmBtu)(T/2000 lbs) = 35.49 tpy SO2
86,000 mmBtu/yr (0.0006 lb/mmBtu)(T/2000 lb) = 0.03 tpy SO2
35.49 (oil) + 0.03 (gas) = 35.52 tpy SO2

And for 2 emissions units, since the fuel oil allotment is already used in the first emissions unit:

Combined emissions = 35.52 tpy SO2 + 226,000 mmBtu/yr (0.0006 lb/mmBtu)(T/2000lbs)
= 35.52 + 0.07 = 35.59 tpy SO2

Using this logic the restricted emissions become

Table with 7 columns: TPY, CO, NOx, PE, SO2, VOC. Rows include One emissions unit, Two emissions units, and State modeling levels.

Although NOx and SO2 exceed the trigger point for State modeling requirements, the facility has committed to remove two similar boilers from service prior to start-up of these emissions units. Engineering Guide #69 states: "Like-kind replacements would not need modeling if all emissions parameters remain the same since there would be no increase in impact due to the permit action." Therefore State modeling will not be required.

Facility-wide Allowable Emissions (Enforceable PTE)

The permittee volunteered a facility-wide fuel restriction of 1.0 million gallons per year fuel oil and 1.0 billion cubic feet per year of natural gas to avoid major source status for Title V in PTI 04-01507 as issued 7/22/2008. They have requested that we extend that restriction to include these emissions units:

CO gas - 1.0 billion cubic feet/year (1020 mmBtu/mmscf)(0.082 lb/mmBtu)(T/2000lb) = 41.82 tpy CO
CO oil - 1.0 million gal/yr (140 mmBtu/1000 gal)(0.040 lb/mmBtu)(T/2000lb) = 2.80 tpy CO
41.82 tpy CO + 2.80 tpy CO = 44.62 tpy CO

NOx gas - 1.0 billion cubic feet/year (1020 mmBtu/mmscf)(0.080 lb/mmBtu)(T/2000lb) = 40.80 tpyNOx
NOx oil - 1.0 million gal/yr (140 mmBtu/1000 gal)(0.190 lb/mmBtu)(T/2000lb) = 13.30 tpyNOx
40.80 tpyNOx + 13.30 tpyNOx = 54.10 tpyNOx



PE gas – 1.0 billion cubic feet/year (1020 mmBtu/mmscf)(0.002 lb/mmBtu)(T/2000lb) = 1.02 tpy PE
PE oil - 1.0 million gal/yr (140 mmBtu/1000 gal)(0.014 lb/mmBtu)(T/2000lb) = 0.98 tpy PE
1.02 tpy PE + 0.98 tpy PE = 2.00 tpy PE

SO2 gas – 1.0 billion cubic feet/year (1020 mmBtu/mmscf)(0.0006 lb/mmBtu)(T/2000lb) = 0.31 tpy SO2
SO2 oil - 1.0 million gal/yr (140 mmBtu/1000 gal)(0.507 lb/mmBtu)(T/2000lb) = 35.49 tpy SO2
0.31 tpy SO2 + 35.49 tpy SO2 = 35.80 tpy SO2

Note: the previous emissions limitation was set at 35.30 tpy SO2 based on an emissions factor of 0.50 lb/mmBtu for oil

VOC gas – 1.0 billion cubic feet/year (1020 mmBtu/mmscf)(0.005 lb/mmBtu)(T/2000lb) = 2.55 tpy VOC
VOC oil - 1.0 million gal/yr (140 mmBtu/1000 gal)(0.0024 lb/mmBtu)(T/2000lb) = 0.17 tpy VOC
2.55 tpy VOC + 0.17 tpy VOC = 2.72 tpy VOC

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
CO	18.58 (no increase)
NO _x	25.78 (no increase)
PE	1.30 (no increase)
SO2	35.59 (no increase)
VOC	1.14 (no increase)

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install and Operate
UNIVERSITY OF TOLEDO - MAIN CAMPUS

Issue Date: 8/2/2011

Permit Number: P0108314

Permit Type: Initial Installation

Permit Description: FEPTIO for two identical 600 HP natural gas-fired with no.2 fuel oil backup steam generators (25.8 mmBtu/hr each)

Facility ID: 0448010805

Facility Location: UNIVERSITY OF TOLEDO - MAIN CAMPUS
2801 W BANCROFT ST,
Toledo, OH 43606

Facility Description: Colleges, Universities, and Professional Schools

The Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control, federally enforceable permit-to-install and operate (PTIO) for the facility at the location identified above on the date indicated. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to Babak Firoozi at Toledo Department of Environmental Services, 348 South Erie Street, Toledo, OH 43604 or (419)936-3015. The permit can be downloaded from the Web page: www.epa.ohio.gov/dapc

Ohio

**Environmental
Protection Agency**

DRAFT

**Division of Air Pollution Control
Permit-to-Install and Operate
for
UNIVERSITY OF TOLEDO - MAIN CAMPUS**

Facility ID:	0448010805
Permit Number:	P0108314
Permit Type:	Initial Installation
Issued:	8/2/2011
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install and Operate
for
UNIVERSITY OF TOLEDO - MAIN CAMPUS

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Authorization

Facility ID: 0448010805
Application Number(s): A0042073, A0042185
Permit Number: P0108314
Permit Description: FEPTIO for two identical 600 HP natural gas-fired with no.2 fuel oil backup steam generators (25.8 mmBtu/hr each)
Permit Type: Initial Installation
Permit Fee: \$800.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 8/2/2011
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

UNIVERSITY OF TOLEDO - MAIN CAMPUS
2801 W BANCROFT ST
Toledo, OH 43606

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:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

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

Scott J. Nally
Director



Authorization (continued)

Permit Number: P0108314

Permit Description: FEPTIO for two identical 600 HP natural gas-fired with no.2 fuel oil backup steam generators (25.8 mmBtu/hr each)

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

Group Name: 25.8 mmBtu/hr natural gas boiler

Table with 2 columns: Emissions Unit ID, Company Equipment ID, Superseded Permit Number, General Permit Category and Type. Rows include units B021 and B022.

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 Toledo Department of Environmental Services 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.

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).

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.

B. Facility-Wide Terms and Conditions

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.
2. The following emission units contained in this permit are subject to 40 CFR Part 60, Subpart Dc: B021 and B022. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Toledo Division of Environmental Services.
3. The following emission units contained in this permit are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for industrial, commercial, and institutional boilers area sources, as promulgated by the United States Environmental Protection Agency under 40 CFR Part 63, Subpart JJJJJJ: B021 and B022. The complete NESHAP requirements, including the General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Toledo Division of Environmental Services.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group -25.8 mmBtu/hr Natural Gas boiler: B021, B022.

EU ID	Operations, Property and/or Equipment Description
B021	25.8 mmBtu/hr natural gas and No. 2 fuel oil fired boiler
B022	25.8 mmBtu/hr natural gas and No. 2 fuel oil fired 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. b)(2)g.

(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.

b)(1)d., b)(2)e., b)(2)f, d)(3), e)(3), f)(1)e., f)(1)j.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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.	ORC 3704.03(T)	<p>The emissions of NO_x from this emissions unit when combusting natural gas shall not exceed 0.080 pound per mmBtu of heat input.</p> <p>The emissions of NO_x from this emissions unit when combusting distillate fuel oil shall not exceed 0.190 pound per mmBtu of heat input.</p> <p>The emissions of SO₂ from this emissions unit when combusting natural gas shall not exceed 0.6 pound per million cubic feet.</p> <p>See b)(2)a. and b)(2)b.</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	<p>The emissions of carbon monoxide (CO) from this emissions unit while combusting natural gas shall not exceed 0.082 pound per mmBtu.</p> <p>The emissions of CO from this emissions unit while combusting fuel oil shall not exceed 0.036 pound per mmBtu of heat input.</p> <p>The emissions of CO from this emissions unit shall not exceed 9.29 tons per year.</p> <p>The particulate emissions (PE) from this emissions unit while combusting natural gas shall not exceed 0.002 pound per mmBtu of heat input.</p> <p>The PE from this emissions unit while combusting fuel oil shall not exceed 0.014 pound per mmBtu of heat input.</p> <p>The PE from this emissions unit shall not exceed 1.07 tons per year.</p> <p>The volatile organic compound (VOC) emissions from this emissions unit when combusting natural gas shall not exceed 0.005 pound per mmBtu of heat input.</p> <p>The VOC emissions from this emissions unit when combusting fuel oil shall not exceed 0.0024 pound per mmBtu of heat input.</p> <p>The VOC emissions from this emissions unit shall not exceed 0.57 ton per year.</p> <p>See b)(2)c.</p>
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)d.
d.	OAC rule 3745-31-05(D)	<p>The combined emissions of nitrogen oxides (NOx) facility-wide shall not exceed 54.10 tons per rolling, 12-month period.</p> <p>The combined emissions of sulfur dioxide</p>

Draft Permit-to-Install and Operate
UNIVERSITY OF TOLEDO - MAIN CAMPUS

Permit Number: P0108314

Facility ID: 0448010805

Effective Date: To be entered upon final issuance

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		(SO ₂) facility-wide shall not exceed 35.30 tons per rolling, 12-month period. See b)(2)e. and b)(2)f.
e.	OAC 3745-31-05(E)	See b)(2)g.
f.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
g.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 pound per million Btu of actual heat input. See b)(2)h.
h.	OAC rule 3745-18-06(A)	See b)(2)i.
i.	OAC rule 3745-18-06(D)	Exempt, by the provisions of OAC rule 3745-18-06(A) during any calendar day in which natural gas is the only fuel burned. See b)(2)j.
j.	40 CFR Part 60, Subpart Dc (40 CFR 60.40c – 60.48c) In accordance with 40 CFR 60.40c(a) this emissions unit is a 25.8 mmBtu/hr boiler which can combust natural gas or distillate oil.	During any calendar day in which fuel oil is burned, the emissions of SO ₂ from this emissions unit shall not exceed 215 nanograms per Joule (0.50 pound SO ₂ per million Btu) heat input; or, as an alternative the permittee shall combust no oil that contains greater than 0.5 weight percent sulfur. During any calendar day in which fuel oil is burned, the visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except for one six-minute period per hour of not more than 27% opacity, except as provided by rule. See b)(2)k.
k.	40 CFR Part 63, Subpart A (63.1 through 63.16)	See b)(2)l.
l.	40 CFR Part 63 Subpart JJJJJJ (63.11193 through 63.11236)	In accordance with 40 CFR 63.11195(e), this emission unit is exempted from the emission limitations in Table 1 and the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	In accordance with 40 CFR 63.11193, this emissions unit is an institutional boiler that is located at, or is part of, an area source of HAP subject to the emission limitations/control measures specified in this section.	work practice standards, emission reduction measures, and management practices specified in Table 2 of this subpart by meeting the requirements for a gas-fired boiler as defined in 40 CFR 63.11237: Gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

(2) Additional Terms and Conditions

- a. The pound per million Btu emissions limitations were established for PTI purposes to reflect the potential to emit for this inherently clean emissions unit at the maximum firing rate.
- b. The requirements of this rule also include compliance with the requirements of 40 CFR Part 60, Subpart Dc.
- c. 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.
- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The best available technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled carbon monoxide (CO) emissions, particulate emissions (PE), and volatile organic compound (VOC) emissions from this air contaminant source since the potential to emit for CO, PE, and VOC is less than 10 tons per year.

- e. The facility-wide usage of distillate fuel oil shall not exceed 1.0 million gallons as a rolling, 12-month summation of oil received.
- f. The facility-wide usage of natural gas shall not exceed 1.0 billion standard cubic feet (1.0 million Mscf) as a rolling, 12-month summation of natural gas received.
- g. The University of Toledo shall permanently shut down emissions units B015 and B016 at Savage Hall prior to startup of the units under this permit to install, in order to avoid state modeling.
- h. The PE requirements established by this rule are less stringent than the requirements established under OAC rule 3745-31-05(A)(3). 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 pollutants less than ten tons per year. However, that rule revision has not yet been approved by the US EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the US 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 US EPA approves the December 1, 2006 version of 3745-31-05, then the requirements of OAC rule 3745-17-10(B)(1) and all associated terms and conditions become effective.
- i. OAC rule 3745-18-06(A) does not establish SO₂ emission limitations for the fuel burning equipment associated with this emissions unit during any calendar day in which natural gas is the only fuel burned. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emission unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

On September 1, 2003, OAC rule 3745-18-06 was revised to delete the following phrase: "having a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pounds per million standard cubic feet". Therefore, this phrase is no longer part of the State regulations. However, that rule revision has not yet been submitted to the 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 3745-18-06, the requirements still exists as part of the federally-approved SIP for Ohio.
- j. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- k. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio

Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

- I. Table 8 to Subpart JJJJJJ of 40 CFR Part 63, provides applicability provisions, definitions, and other general provisions that are applicable to this emissions unit.

c) Operational Restrictions

- (1) The permittee shall only burn natural gas or distillate fuel oil

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas or distillate fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

- (2) For each shipment of oil received for burning at this facility, the permittee shall 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 pounds per million Btu). The sulfur dioxide emission rate shall be calculated in accordance with the formula(s) specified in 40 CFR 60.44c. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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 D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the director.

- (3) The permittee shall maintain monthly records of the following information:
 - a. the facility-wide natural gas usage rate (in Mscf, on an as received basis) for each month;
 - b. the rolling, 12-month summation of the facility-wide natural gas usage rates (in Mscf);
 - c. the facility-wide distillate fuel oil usage rate (in gallons, on an as received basis) for each month; and
 - d. 12-month summation of the facility-wide distillate fuel oil usage rates (in gallons).

To ensure enforceability during the first 12 calendar months of operation, following the issuance of this permit, actual emissions calculated from material usage records from the previous 11 calendar months of operation shall be used to calculate the rolling, 12 – month emissions from this emissions unit and facility.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or distillate fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (2) The permittee shall notify the director (the Toledo Division of Environmental Services) in writing of any record which shows a deviation from the allowable sulfur dioxide emission limitation contained in this permit, based upon the sulfur dioxide emission rates calculated in accordance with the formula(s) specified in 40 CFR 60.44c. The notification shall include a copy of such record and shall be sent to the director (the Toledo Division of Environmental Services) within 45 days after the deviation occurs.
- (3) The permittee shall submit quarterly deviation (excursion) reports that summarize the content of the deviation reports above, and that identify all exceedances of the rolling, 12-month facility-wide fuel usage limitation(s), all exceedances of the maximum allowable cumulative facility-wide fuel usage limitations. The deviation reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarter. If no deviations occurred during a quarterly period, the permittee shall submit a quarterly report, which states that no deviations occurred during that period. These reports shall be submitted to the Toledo Division of Environmental Services, 348 South Erie Street, Toledo, Ohio 43604.
- (4) 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);
 - d. date of performance testing (if required, at least 30 days prior to testing); and
 - e. the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

Reports are to be sent to the Toledo Division of Environmental Services and to:

Ohio Environmental Protection Agency

DAPC - Permit Management Unit

P.O. Box 163669

Columbus, Ohio 43216-3669

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

When fuel oil is burned, visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, except for one six-minute period per hour of not more than 27% opacity, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in 40 CFR Part 60.47c(a).

c. Emission Limitation:

0.08 pound NO_x per mmBtu of heat input when combusting natural gas

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit using flue gas recirculation based upon manufacturer's emissions factors.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-4 and Method 7 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

d. Emission Limitation:

0.19 pound NO_x per mmBtu of heat input when combusting fuel oil

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit based upon manufacturer's emissions factors.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-4 and Method 7 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

e. Emission Limitation:

The combined emissions of NO_x from emissions units facility-wide shall not exceed 54.10 tons per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for eight emissions units utilizing the allowable quantity of fuel oil (1 million gallons per year) and the allowable quantity of natural gas (1 million Mscf per year). At 140 mmBtu per 1000 gallons, fuel oil usage accounts for 140,000 mmBtu of heat input per year. At 1020 Btu per scf, natural gas oil usage accounts for 1,020,000 mmBtu of heat input per year.

The annual emissions of NO_x may be calculated as the sum of the emissions from fuel oil combustion added to the emissions from natural gas combustion. Fuel oil emissions may be calculated by multiplying the technical emissions limitation (0.19 pound of NO_x per mmBtu of heat input - worst case manufacturer's emission factor) by the distillate fuel oil heat input (140,000 million Btu per year) and dividing by 2000 pounds per ton. Natural gas emissions may be calculated by multiplying the technical emissions limitation (0.08 pound of NO_x per mmBtu of heat input - worst case manufacturer's emission factor) by the natural gas heat input (1,020,000 million Btu per year) and dividing by 2000 pounds per ton.

$$(0.19 \text{ lb/mmBtu})(140,000 \text{ mmBtu/yr})(1 \text{ t}/2000 \text{ lb}) = 13.30 \text{ tpy}$$

$$(0.08 \text{ lb/mmBtu})(1,020,000 \text{ mmBtu/yr})(1 \text{ t}/2000 \text{ lb}) = 40.80 \text{ tpy}$$

f. Emission Limitation:

0.020 pound PE per mmBtu of heat input

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the distillate fuel oil emission factor (2 pounds of PE per 1000 gallons) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3, Table 1.3-1 (5/10), by the distillate fuel oil heat content (140 mmBtu per per 1000 gallons).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

g. Emission Limitation:

0.50 pound of SO₂ per mmBtu (215 nanograms per Joule) of heat input

Applicable Compliance Method:

Compliance with the allowable sulfur dioxide emission limitation may be demonstrated by emission rate calculations performed in accordance with the specifications of 40 CFR 60.44c.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with Method 19 or Methods 1 through 4 and 6 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

h. Emission Limitation:

combust no oil that contains greater than 0.5 weight percent sulfur

Applicable Compliance Method:

Compliance may be demonstrated by the methods and procedures of 40 CFR 60.44c. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

i. Emission Limitation:

0.6 pound SO₂ per million cubic feet of heat input when combusting natural gas.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit based upon the natural gas emission factor (0.6 pound of SO₂ per million cubic feet of natural gas) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table 1.4-2 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through the methods and procedures of OAC rule 3745-18-04(E)(3). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

j. Emission Limitation:

The combined emissions of sulfur dioxide (SO₂) from emissions units facility-wide shall not exceed 35.30 tons per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for eight emissions units utilizing the allowable quantity of fuel oil (1 million gallons per year) and the allowable quantity of natural gas (1 billion cuft per year).

The annual emissions of SO₂ may be calculated as the sum of the emissions from fuel oil combustion added to the emissions from natural gas combustion. Fuel oil emissions may be calculated by multiplying the technical emissions limitation (0.50 pound of SO₂ per mmBtu of heat input) by the maximum distillate fuel oil usage rate (1 million gallons per year), by the fuel oil heat content (140,000 million Btu per million gallons) and dividing by 2000 pounds per ton. Natural gas emissions may be calculated by multiplying the technical emissions limitation (0.6 pound of SO₂ per million cubic feet of natural gas) by the maximum natural gas usage rate (1,000 million cubic feet of natural gas per year) and dividing by 2000 pounds per ton.

k. Emission Limitation:

0.082 pound CO per mmBtu of heat input when combusting natural gas

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the natural gas emission factor (84 pounds of CO per million cubic feet of natural gas) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table 1.4-1 (7/98) by the natural gas heat content (1,020 mmBtu per million cubic feet of natural gas).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

l. Emission Limitation:

0.036 pound of CO per mmBtu of heat input when combusting fuel oil

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the distillate fuel oil emission factor (5 pounds of CO per 1000 gallons) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3, Table 1.3-1 (5/10), by the distillate fuel oil heat content (140 mmBtu per per 1000 gallons).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

m. Emission Limitation:

9.29 tons of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit operating at maximum capacity (25.8 mmBtu per hour) for 8760 hours per year (226,000 mmBtu per year). Natural gas has a higher emission factor than fuel oil, based on AP-42 (0.082 pounds CO per mmBtu for natural gas vs. 0.036 pound CO per mmBtu for distillate fuel oil) and the facility wide restriction on natural gas combustion is greater than the annual combustion of this emissions unit (1000 mmcuft/yr times 1,020 mmBtu/mmcuft = 1.02 million mmBtu per year), therefore the combustion of natural gas will be used to determine the potential to emit.

The annual emissions of CO may be calculated by multiplying the technical emissions limitation (0.082 pound of CO per mmBtu of heat input) by the maximum annual heat input of the emissions unit (226,000 million Btu per year) and dividing by 2000 pounds per ton.

n. Emission Limitation:

0.002 pound PE per mmBtu of heat input when combusting natural gas

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the natural gas emission factor (1.9 pounds of PE per million cubic feet of natural gas) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table 1.4-1 (7/98) by the natural gas heat content (1,020 mmBtu per million cubic feet of natural gas).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

o. Emission Limitation:

0.014 pound PE per mmBtu of heat input when combusting fuel oil

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the distillate fuel oil emission factor (2 pounds of PE per 1000 gallons) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3, Table 1.3-1 (5/10), by the distillate fuel oil heat content (140 mmBtu per per 1000 gallons).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

p. Emission Limitation:

1.07 tons of PE per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit operating at maximum capacity (25.8 mmBtu per hour) for 8760 hours per year (226,000 mmBtu per year), while utilizing the maximum allowable quantity of fuel oil (1 million gallons per year). At 140 mmBtu per 1000 gallons, fuel oil usage accounts for 140,000 mmBtu of heat input per year. The balance of the heat input from the combustion of natural gas (226,000 - 140,000) equals 86,000 mmBtu per year. At 1,020 Btu per cubic foot of natural gas this usage equates to 84.3 million cubic feet of natural gas combusted per year.

The annual emissions of PE may be calculated as the sum of the emissions from fuel oil combustion added to the emissions from natural gas combustion. Fuel oil emissions may be calculated by multiplying the technical emissions limitation (0.014 pound of PE per mmBtu of heat input) by the distillate fuel oil heat input (140,000 million Btu per year) and dividing by 2000 pounds per ton. Natural gas emissions may be calculated by multiplying the technical emissions limitation (1.9 pound of PE per million cubic feet of natural gas) by the maximum natural gas usage rate (84.3 million cubic feet of natural gas per year) and dividing by 2000 pounds per ton.

$$(0.014 \text{ lb/mmBtu})(140,000 \text{ mmBtu/yr})(1 \text{ t}/2000 \text{ lb}) = 0.98 \text{ tpy}$$

$$(1.9 \text{ lb/mmcf})(84.3 \text{ mmcf/yr})(1 \text{ t}/2000 \text{ lb}) = 0.08 \text{ tpy}$$

q. Emission Limitation:

0.005 pound VOC per mmBtu of heat input when combusting natural gas

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the natural gas emission factor (5.5 pounds of VOC per million cubic feet of natural gas) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table 1.4-2 (7/98) by the natural gas heat content (1,020 mmBtu per million cubic feet of natural gas).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25A of 40 CFR, Part 60 Appendix A. Alternate, equivalent

methods may be used upon approval by the Toledo Division of Environmental Services.

r. Emission Limitation:

0.0024 pound VOC per mmBtu of heat input when combusting fuel oil

Applicable Compliance Method:

Compliance with this emission limitation may be determined by dividing the distillate fuel oil emission factor (0.34 pound of VOC per 1000 gallons) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3, Table 1.3-3 (5/10), by the distillate fuel oil heat content (140 mmBtu per 1000 gallons).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25A of 40 CFR, Part 60 Appendix A. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

s. Emission Limitation:

0.57 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit operating at maximum capacity (25.8 mmBtu per hour) for 8760 hours per year (226,000 mmBtu per year). Natural gas has a higher emission factor than fuel oil, based on AP-42 (0.005 pounds VOC per mmBtu for natural gas vs. 0.0024 pound VOC per mmBtu for distillate fuel oil) and the facility wide restriction on natural gas combustion is greater than the annual combustion of this emissions unit (1000 mmcuft/yr times 1,020 mmBtu/mmcuft = 1.02 million mmBtu per year), therefore the combustion of natural gas will be used to determine the potential to emit.

The annual emissions of VOC may be calculated by multiplying the technical emissions limitation (0.005 pound of VOC per mmBtu of heat input) by the maximum annual heat input of the emissions unit (226,000 million Btu per year) and dividing by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.