



Environmental  
Protection Agency

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

6/28/2011

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

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

Facility ID: 0448010805  
Permit Number: P0108056  
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](http://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*  
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

Certified Mail

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





Permit Strategy Write-Up

1. Check all that apply:

[X] Synthetic Minor Determination

Netting Determination

2. Source Description:

The University of Toledo (UT), located at 2801 W. Bancroft in Toledo, Ohio, has submitted an application for two additional 600 hp steam generators (25.8 mmBtu/hr) that are the same size as the six steam generators previously installed in the central steam plant in Savage Hall under PTI 04-01507 issued 7/22/2008. These generators are being added to improve plant reliability and system redundancy. 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:

The facility is currently considered a major source for SO2 and a minor source for CO, NOx, PM10, and OC. Lucas County has the following attainment status:

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:

The individual emission units will be restricted by a distillate fuel oil limitation of 1,000,000 gallons per year to 16.74 tons per year (TPY) of NOx, 35.03 TPY of SO2, 9.27 TPY of CO, 1.07 TPY of PE, 0.74 TPY of PM10 and 1.24 TPY of OC. The combined emissions from all eight boilers (i.e. federally enforceable PTE) will not exceed 54.10 TPY of NOx, 35.30 TPY of SO2, 47.56 TPY of CO, 8.12 TPY of PE, 3.39 TPY of PM10, and 6.38 TPY of OC due to a combined restriction of 1.0 billion cubic feet of natural gas per year and the 1,000,000 gallons per year of fuel oil.

5. Conclusion:

The permittee has submitted an application to add two additional 600 hp steam generators to the central steam plant for system redundancy to the six installed in 2008. They have requested the same annual fuel restrictions for all eight that were originally taken on the six steam generators. The eight steam generators installed were treated as one project in order to prevent circumvention. When treated as one project, the emissions did not exceed the PSD significant increase levels, taking into account the fuel restrictions



volunteered by the permittee. It is recommended that this permit be issued as draft with a 30-day comment period for federal enforceability.

6. Please provide additional notes or comments as necessary:

Source Description

The University of Toledo has submitted an application to install two additional 600 hp(25.8 mmBtu/hr) steam generators in the central steam plant located in Savage Hall. In 2008, the facility had installed six identical 600 hp steam generators (25.8 mmBtu/hr) in the same facility. These two additional steam generators are being added to improve plant reliability and system redundancy. In order to prevent circumvention, this project will be evaluated as an extension of the installation of the previous six 600 hp steam generators for PSD purposes. The original six steam generators for this project were intended to replace four pre-existing boilers: B001 (37.5 mmBtu/hr), B002 (56.3 mmBtu/hr), B003 (37.5 mmBtu/hr), and B010 (65.9 mmBtu/hr). The pre-existing boilers that remained were: B006 (2.51 mmBtu/hr @ Carter Hall West), B007 (5.2 mmBtu/hr @ Health & Education Building), B017 (12.55 mmBtu/hr @ Student Rec Center), and B018 (12.55 mmBtu/hr @ Student Rec Center).

With no restrictions, the facility could be considered an existing major source for SO2 for PSD purposes. The new steam generators are gas fired, with No. 2 distillate fuel backup firing capabilities. In order to avoid PSD review for SO2 and NOx, the permittee requested a rolling 12-month restriction of 1.0 million gallons of No. 2 distillate fuel oil and 1.0 billion cubic feet of natural gas combined for emissions units B001 through B018.

Applicable Regulations

- OAC rule 3745-31-05(A)(3) Best available technology
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
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 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, will not be effective until exemption for pollutants <10 TPY from BAT is approved for SIP
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 SO<sub>2</sub> 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 JJJJJ

§ 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

(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)

(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.) PSD review would apply if any criteria pollutant were permitted at greater than 250 tpy prior to the installation of the eight boilers that make up the current project. The total facility capacity prior to this project was eight boilers totaling 227.31 mmBtu/hr. As part of the installation of the first six boilers comprising this project, four of the boilers totaling 194.5 mmBtu/hr were removed from service. Using emission factors as established in AP-42, "Compilation of Air Pollutant Emission Factors", 5<sup>th</sup> Edition using the worst case for fuel oil or natural gas for boilers: 0.082 lb CO/mmBtu, 0.14 lbNO<sub>x</sub>/mmBtu, 0.014 lb PE/mmBtu, 0.50 lb SO<sub>2</sub>/mmBtu and 0.011 lb VOC/mmBtu, the facility-wide emissions prior to this project may be estimated as follows:

PSD

$$227.31 \text{ mmBtu/hr (0.082 lb CO/mmBtu)}(8,760 \text{ hrs/yr})\div(2,000 \text{ lbs/ton}) = 81.64$$

$$227.31 \text{ mmBtu/hr (0.14 lbNO}_x\text{/mmBtu)}(8,760 \text{ hrs/yr})\div(2,000 \text{ lbs/ton}) = 139.2$$

$$227.31 \text{ mmBtu/hr (0.014 lb PE/mmBtu)}(8,760 \text{ hrs/yr})\div(2,000 \text{ lbs/ton}) = 13.9$$

$$227.31 \text{ mmBtu/hr (0.50 lb SO}_2\text{/mmBtu)}(8,760 \text{ hrs/yr})\div(2,000 \text{ lbs/ton}) = 497.81$$

$$227.31 \text{ mmBtu/hr (0.011 lb OC/mmBtu)}(8,760 \text{ hrs/yr})\div(2,000 \text{ lbs/ton}) = 10.9$$



Therefore, without additional restrictions, the facility would be considered a major for SO<sub>2</sub>, and PSD review would apply.

### Source Emissions

The AP-42 emission factors for natural gas and No. 2 distillate fuel oil will be used as the first estimate for each boiler's regulated pollutants, the worst case or largest emission factor will be used:

CO:  $(25.8 \text{ mmBtu/hr})(0.082 \text{ lb CO/mmBtu}) = 2.12 \text{ lbs/hr}$  AP-42, 5<sup>th</sup> Edition, Section 1.4,  
 $(2.12 \text{ lbs/hr})(8,760 \text{ hrs/yr})/(2,000 \text{ lbs/ton}) = 9.29 \text{ tons/yr}$  Table 1.4-1 (7/98)

NO<sub>x</sub>:  $(25.8 \text{ mmBtu/hr})(0.19 \text{ lbNO}_x/\text{mmBtu}) = 4.90 \text{ lbs/hr}$  Emission factor for fuel oil from boiler  
 $(3.61 \text{ lbs/hr})(8,760 \text{ hrs/yr})/(2,000 \text{ lbs/ton}) = 21.46 \text{ tons/yr}$  manufacturer provided by permittee

PE:  $(25.8 \text{ mmBtu/hr})(0.014 \text{ lb PE/mmBtu}) = 0.36 \text{ lb/hr}$  AP-42, 5<sup>th</sup> Edition, Section 1.3,  
 $(0.36 \text{ lb/hr})(8,760 \text{ hrs/yr})/(2,000 \text{ lbs/ton}) = 1.58 \text{ tons/yr}$  Table 1.3-1 (5/10)

SO<sub>2</sub>:  $(25.8 \text{ mmBtu/hr})(0.50 \text{ lb SO}_2/\text{mmBtu}) = 12.90 \text{ lbs/hr}$  AP-42, 5<sup>th</sup> Edition, Section 1.3,  
 $(12.90 \text{ lbs/hr})(8,760 \text{ hrs/yr})/(2,000 \text{ lbs/ton}) = 56.50 \text{ tons/yr}$  Table 1.3-1 (5/10)

OC:  $(25.8 \text{ mmBtu/hr})(0.011 \text{ lb OC/mmBtu}) = 0.28 \text{ lb/hr}$  AP-42, 5<sup>th</sup> Edition, Section 1.4,  
 $(0.28 \text{ lb/hr})(8,760 \text{ hrs/yr})/(2,000 \text{ lbs/ton}) = 1.23 \text{ tons/yr}$  Table 1.4-2 (7/98)

So, the unrestricted tons pollutant per year evaluation:

Pollutant	CO	NO <sub>x</sub>	PE	PM <sub>10</sub>	SO <sub>2</sub>	OC
Single emission unit	9.29	21.46	1.58	-	56.50	1.23
Eight emission units	74.32	171.68 <sup>1</sup>	12.64	-	452.00 <sup>1</sup>	9.84
PSD significant increase	100	40	25	15	40	40

<sup>1</sup> additional restrictions will be necessary to avoid PSD review

### Permit Allowable Emissions

The permittee has volunteered fuel restrictions of 1.0 million gallons per year fuel oil and 1.0 billion cubic feet per year of natural gas to avoid a significant increase status for SO<sub>2</sub> and NO<sub>x</sub>.

Where,

$(25.8 \text{ mmBtu/hour})(8,760 \text{ hours/year}) = 226,000 \text{ mmBtu/year}$  is the unrestricted total heat input per unit  
 $(226,000 \text{ mmBtu/year})(8 \text{ emission units}) = 1,808,000$  is the unrestricted total heat input  
 $(1,000,000 \text{ gallons/year})(0.14 \text{ mmBtu/gallon}) = 140,000 \text{ mmBtu/year}$  utilizing fuel oil  
 $(1,000 \text{ mmcuft/year})(1,020 \text{ mmBtu/mmcuft}) = 1,020,000 \text{ mmBtu/year}$  utilizing natural gas  
 $140,000 \text{ mmBtu/year} + 1,020,000 \text{ mmBtu/year} = 1,160,000 \text{ mmBtu/year}$  is the restricted total heat input  
 $226,000 \text{ mmBtu/year} - 140,000 \text{ mmBtu/year} = 86,000 \text{ mmBtu/year}$  per unit for unrestricted natural gas burned after total restricted fuel oil combusted

CO:  $(0.082 \text{ lb CO/mmBtu})(1,020,000 \text{ mmBtu/yr})/(2000 \text{ lbs/ton}) = 41.82 \text{ tons/yr}$  from natural gas  
 $(0.082 \text{ lb CO/mmBtu})(226,000 \text{ mmBtu/yr})/(2000 \text{ lbs/ton}) = 9.27 \text{ tons/yr}$  from natural gas per unit  
 $(0.036 \text{ lb CO/mmBtu})(140,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 2.52 \text{ tons/yr}$  from fuel oil

NO<sub>x</sub>:  $(0.08 \text{ lbNO}_x/\text{mmBtu})(1,020,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 40.80 \text{ tons/yr}$  from natural gas



$(0.08 \text{ lbNO}_x/\text{mmBtu})(86,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 3.44 \text{ tons/yr}$  from natural gas per unit  
 $(0.19 \text{ lbNO}_x/\text{mmBtu})(140,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 13.30 \text{ tons/yr}$  from fuel oil

PE:  $(0.002 \text{ lb PE/mmBtu})(1,020,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 1.02 \text{ tons/yr}$  from natural gas  
 $(0.002 \text{ lb PE/mmBtu})(86,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 0.09 \text{ ton/yr}$  from natural gas per unit  
 $(0.014 \text{ lb PE/mmBtu})(140,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 0.98 \text{ tons/yr}$  from fuel oil

PM<sub>10</sub>:  $(5.7 \text{ lb PM}_{10}/\text{mmcuft})(1,000 \text{ mmcuft/yr})/(2,000 \text{ lbs/ton}) = 2.85 \text{ tons/yr}$  from natural gas  
 $(5.7 \text{ lb PM}_{10}/\text{mmcuft})(86,000 \text{ mmBtu/yr})(\text{mmcuft}/1,020 \text{ mmBtu})/(2,000 \text{ lbs/ton})$   
 $= 0.24 \text{ ton/yr}$  from natural gas  
 $(1.0 \text{ lb PM}_{10}/1000 \text{ gal})(1,000,000 \text{ gal/yr})/(2,000 \text{ lbs/ton}) = 0.50 \text{ ton/yr}$  from fuel oil

SO<sub>2</sub>:  $(0.6 \text{ lb SO}_2/\text{mmcuft})(1,000 \text{ mmcuft/yr})/(2,000 \text{ lbs/ton}) = 0.30 \text{ ton/yr}$  from natural gas  
 $(0.6 \text{ lb SO}_2/\text{mmcuft})(86,000 \text{ mmBtu/yr})(\text{mmcuft}/1,020 \text{ mmBtu})/(2,000 \text{ lbs/ton})$   
 $= 0.03 \text{ ton/yr}$  from natural gas per unit  
 $(0.50 \text{ lb SO}_2/\text{mmBtu})(140,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 35.00 \text{ tons/yr}$  from fuel oil

OC:  $(0.011 \text{ lb OC/mmBtu})(1,020,000 \text{ mmBtu/yr})/(2000 \text{ lbs/ton}) = 5.61 \text{ tons of/yr}$  from natural gas  
 $(0.011 \text{ lb OC/mmBtu})(226,000 \text{ mmBtu/yr})/(2000 \text{ lbs/ton}) = 1.24 \text{ tons/yr}$  from natural gas per unit  
 $(0.004 \text{ lb OC/mmBtu})(140,000 \text{ mmBtu/yr})/(2,000 \text{ lbs/ton}) = 0.28 \text{ ton of/yr}$  from fuel oil

Emission factors used for the steam generators in this project were based on AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4 dated 7/98 for natural gas combustion and AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3 dated 5/10 for No. 2 distillate fuel oil combustion. The NO<sub>x</sub> emissions for the steam generators were based on emission factors supplied by the manufacturer of 0.08 pound of NO<sub>x</sub> per million Btu for natural gas combustion and 0.19 pound of NO<sub>x</sub> per million Btu for distillate fuel oil combustion. Since these emission factors are larger than AP-42 of 0.031 pound of NO<sub>x</sub> per million Btu for natural gas combustion and 0.14 pound of NO<sub>x</sub> per million Btu for distillate fuel oil combustion, the potential facility-wide restricted PTE will be based on these emission factors instead of AP-42.

Facility-wide restricted PTE, tons/yr

	CO	NO <sub>x</sub>	PE	PM <sub>10</sub>	SO <sub>2</sub>	OC
PTE per emission unit	9.27	16.74	1.07	0.74	35.03	1.24
PTE 8 emission units	44.34	54.10	2.00	3.35	35.30	5.89
PSD significant increase	100	40	25	15	40	40

At these levels the emissions of NO<sub>x</sub> exceed the significant increase levels. The permittee submitted a two year average gas usage of 336.548 mmcuft of natural gas for the four boilers removed (fiscal 2007 & 2008). These boilers had no fuel oil usage during the most recent two year period. Utilizing AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4 (7/98) emission factors for netting purposes:

$(336.548 \text{ mmcuft})(100 \text{ lbs CO/mmcuft})/(2,000 \text{ lbs/ton}) = 16.83 \text{ tons/yr}$   
 $(336.548 \text{ mmcuft})(84 \text{ lbsNO}_x/\text{mmcuft})/(2,000 \text{ lbs/ton}) = 14.13 \text{ tons/yr}$   
 $(336.548 \text{ mmcuft})(1.9 \text{ lbs PE/mmcuft})/(2,000 \text{ lbs/ton}) = 0.32 \text{ tons/yr}$   
 $(336.548 \text{ mmcuft})(5.7 \text{ lbs PM}_{10}/\text{mmcuft})/(2,000 \text{ lbs/ton}) = 0.96 \text{ ton/yr}$   
 $(336.548 \text{ mmcuft})(0.6 \text{ lb SO}_2/\text{mmcuft})/(2,000 \text{ lbs/ton}) = 0.10 \text{ ton/yr}$   
 $(336.548 \text{ mmcuft})(11 \text{ lbs OC/mmcuft})/(2,000 \text{ lbs/ton}) = 1.85 \text{ tons/yr}$



	CO	NO <sub>x</sub>	PE	PM <sub>10</sub>	SO <sub>2</sub>	OC
Restricted PTE, 8 emission units	44.34	54.10	2.00	3.35	35.30	5.89
Pre-existing actual decrease	16.83	14.13	0.32	0.96	0.10	1.85
Increase after netting	27.51	39.97	1.68	2.39	35.20	4.04
PSD significant increase	100	40	25	15	25	40

At these emission levels Title V and PSD will not apply.

### Modeling

	CO	NO <sub>x</sub>	PE	PM <sub>10</sub>	SO <sub>2</sub>	OC
Increase after netting	27.51	39.97	1.68	2.39	35.20	4.04
State modeling levels	100	25	15	10	25	-

Modeling will have to be considered for state purposes for NO<sub>x</sub> and SO<sub>2</sub>. Since this permit is for the addition of two new steam generators at the facility, the emissions increase from only these two will be considered. For the 3-hour incremental impact, the hourly emissions level will be used for modeling the emissions increase for SO<sub>2</sub> per unit: (25.8 mmBtu/hr)(0.50 lb SO<sub>2</sub>/mmBtu) = 12.9 lb SO<sub>2</sub>/hr = 1.63 gram/sec. For the daily and annual incremental impact, the increase in allowables after netting will be used to model the emissions increases for NO<sub>x</sub> and SO<sub>2</sub>: 39.97 tons NO<sub>x</sub>/year = 1.15 gram/sec and 35.20 tons SO<sub>2</sub>/year = 1.01 gram/sec. The hourly MGCL from SCREEN3 for these emissions units is 70.6 µg/m<sup>3</sup> at 1.0 gram/sec. Therefore the NO<sub>x</sub> hourly incremental impact is 81.2 µg/m<sup>3</sup> and the SO<sub>2</sub> hourly incremental impact is 71.3 µg/m<sup>3</sup> based on the increase in netted allowable. The SO<sub>2</sub> hourly impact is 115.1 µg/m<sup>3</sup> (x2 EU) = 230.2 µg/m<sup>3</sup> based on the hourly emission levels for the two steam generators. This translates to 3-hour, daily, and annual incremental impacts as shown in the following table:

µg/m <sup>3</sup>	NO <sub>x</sub>		SO <sub>2</sub>			
	1 hr	Annual	1 hr	3 hr	24 hr	annual
State incremental impact	-	12.5	-	256	45.5	10
SCREEN3 modeling TDOES (based on hourly emission level)	-	-	230.2	207.2	-	-
SCREEN3 modeling TDOES (based on increase in allowable)	81.2	6.5	71.3	-	28.5	5.7

Therefore, with restrictions, this installation passes state modeling requirements.

\*\*\* SCREEN3 MODEL RUN \*\*\*

\*\*\* VERSION DATED 96043 \*\*\*

UT PTI 04-01507

#### SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT  
 EMISSION RATE (G/S) = 1.00000  
 STACK HEIGHT (M) = 22.5600  
 STK INSIDE DIAM (M) = 1.2700  
 STK EXIT VELOCITY (M/S) = 19.1868  
 STK GAS EXIT TEMP (K) = 456.5000  
 AMBIENT AIR TEMP (K) = 293.0000  
 RECEPTOR HEIGHT (M) = .0000



URBAN/RURAL OPTION = URBAN
BUILDING HEIGHT (M) = 16.4600
MIN HORIZ BLDG DIM (M) = 61.5700
MAX HORIZ BLDG DIM (M) = 105.2000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 51500.000 (ACFM)

BUOY. FLUX = 27.172 M\*\*4/S\*\*3; MOM. FLUX = 95.276 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*

\*\*\* SCREEN AUTOMATED DISTANCES \*\*\*

\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

Table with columns: DIST (M), CONC (UG/M\*\*3), U10M STAB (M/S), USTK (M/S), MIX HT (M), PLUME HT (M), SIGMA Y (M), SIGMA Z (M), DWASH. Rows 1-1000.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
66. 70.55 1 3.0 3.4 960.0 27.11 21.16 16.61 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3\*LB

\*\*\*\*\*

\*\*\* REGULATORY (Default) \*\*\*

PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)



\*\*\*\*\*

\*\*\* CAVITY CALCULATION - 1 \*\*\*
CONC (UG/M\*\*3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 16.66
CAVITY LENGTH (M) = 70.87
ALONGWIND DIM (M) = 61.57

\*\*\* CAVITY CALCULATION - 2 \*\*\*
CONC (UG/M\*\*3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 16.46
CAVITY LENGTH (M) = 55.68
ALONGWIND DIM (M) = 105.20

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

\*\*\*\*\*

END OF CAVITY CALCULATIONS

\*\*\*\*\*

\*\*\*\*\*

\*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*

\*\*\*\*\*

Table with 4 columns: CALCULATION PROCEDURE, MAX CONC (UG/M\*\*3), DIST TO MAX (M), TERRAIN HT (M). Row 1: SIMPLE TERRAIN, 70.55, 66., 0.

\*\*\*\*\*

\*\* REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS \*\*

\*\*\*\*\*

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

Table with 2 columns: Pollutant, Tons Per Year. Rows: CO (18.54), NOx (25.78), PE (1.29), PM10 (1.48), SO2 (35.10), OC (2.48)

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

Issue Date: 6/28/2011

Permit Number: P0108056

Permit Type: Initial Installation

Permit Description: Climate control for the Main Campus buildings by Installing two (2) additional 600 hp steam generators (25.8 mmBTU/hr each) in the central steam plant in Savage Hall.

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](http://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:	P0108056
Permit Type:	Initial Installation
Issued:	6/28/2011
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): A0041243  
Permit Number: P0108056  
Permit Description: Climate control for the Main Campus buildings by Installing two (2) additional 600 hp steam generators (25.8 mmBTU/hr each) in the central steam plant in Savage Hall.  
Permit Type: Initial Installation  
Permit Fee: \$800.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 6/28/2011  
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: P0108056

Permit Description: Climate control for the Main Campus buildings by Installing two (2) additional 600 hp steam generators (25.8 mmBTU/hr each) in the central steam plant in Savage Hall.

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 gas/oil boilers

Table with 2 columns: Emissions Unit ID, Company Equipment ID, Superseded Permit Number, General Permit Category and Type. Rows include units B019 and B020.

## **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 submitting<sup>1</sup> 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.

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<sup>1</sup>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: B019 and B020. 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: B019 and B020. 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 -Natural gas and No. 2 fuel oil fired boilers: B019, B020,**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
B019	25.8 mmBtu/hr natural gas and No. 2 fuel oil fired boiler
B020	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. 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. b)(1)a., c)(2), d)(3), e)(3), f)(1)e. and 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.

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-31-05(D)	The combined emissions of nitrogen oxides (NO <sub>x</sub> ) from emissions units B011 through B016, B019, and B020 shall not exceed 54.10 tons per rolling, 12-month period. The combined emissions of sulfur dioxide (SO <sub>2</sub> ) from emissions units B011 through B016, B019, and B020 shall not exceed 35.30 tons per rolling, 12-month period. See b)(2)a. and b)(2)b.
b.	ORC 3704.03(T)	The emissions of NO <sub>x</sub> from this emissions unit when combusting natural gas shall not exceed 0.08 pound per mmBtu of heat input. The emissions of NO <sub>x</sub> from this emissions unit when combusting distillate fuel oil shall not exceed 0.19 pound per mmBtu of heat input.

**Effective Date:** To be entered upon final issuance

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>The emissions of SO<sub>2</sub> from this emissions unit when combusting natural gas shall not exceed 0.6 pound per million cubic feet.</p> <p>See b)(2)c. and b)(2)d.</p>
c.	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 9.27 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 1.06 tons per year.</p> <p>The emissions of particulate matter less than 10 microns (PM<sub>10</sub>) from this emissions unit while combusting natural gas shall not exceed 0.006 pound per mmBtu of heat input.</p> <p>The emissions of PM<sub>10</sub> from this emissions unit while combusting fuel oil shall not exceed 0.008 pound per mmBtu of heat input.</p> <p>The emissions of PM<sub>10</sub> from this emissions unit shall not exceed 0.80 ton per year.</p> <p>The organic compound (OC) emissions from this emissions unit when combusting natural gas shall not exceed 0.011 pound per mmBtu of heat input.</p> <p>The OC emissions from this emissions unit when combusting fuel oil shall not exceed 0.004 pound per mmBtu of heat input.</p>

		The OC emissions from this emissions unit shall not exceed 1.24 tons per year. See b)(2)e.
d.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)f.
e.	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.
f.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 pound per million Btu of actual heat input. See b)(2)g.
g.	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)h.
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 <sub>2</sub> from this emissions unit shall not exceed 215 nanograms per Joule (0.50 pound SO <sub>2</sub> 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)i.

(2) Additional Terms and Conditions

- a. The facility-wide usage of distillate fuel oil shall not exceed 1.0 million gallons as a rolling, 12-month summation of oil received.
- b. 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.

- c. 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.
- d. The requirements of this rule also include compliance with the requirements of 40 CFR Part 60, Subpart Dc.
- e. 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 374531-05, then these emission limits/control measures no longer apply.
- f. 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), particulate matter less than 10 microns (PM<sub>10</sub>) and organic compound (OC) emissions from this air contaminant source since the potential to emit for CO, PE, PM<sub>10</sub> and OC is less than 10 tons per year.
- g. 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.
- h. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- i. 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.

c) Operational Restrictions

- (1) The permittee shall only burn natural gas or distillate fuel oil with  $\leq 0.5\%$  sulfur by weight in this emissions unit,

or

the quality of the oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in this permit (0.50 pound SO<sub>2</sub> per million Btu of heat input).

- (2) To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the facility-wide usage rates (on an as received basis) specified in the following table:

Month(s)	Maximum Allowable Cumulative	
	Natural Gas Usage Rate, Mscf	Fuel Oil Usage Rate, gallons
1	110,000	250,000
1-2	220,000	500,000
1-3	330,000	750,000
1-4	440,000	1,000,000
1-5	550,000	1,000,000
1-6	660,000	1,000,000
1-7	770,000	1,000,000
1-8	880,000	1,000,000
1-9	990,000	1,000,000
1-10	1,000,000	1,000,000
1-11	1,000,000	1,000,000
1-12	1,000,000	1,000,000

After the first 12 calendar months of operation, compliance with the fuel usage limitation(s) shall be based upon a rolling, 12-month summation of the monthly quantities of fuel(s) received.

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 with  $\leq 0.5\%$  sulfur by weight, 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 OAC rule 3745-18-04(F) and 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. beginning after the first 12 calendar months of operation following the issuance of this permit, 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. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the facility-wide distillate fuel oil usage rates (in gallons).

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record:

- e. the cumulative distillate facility-wide fuel usage rate(s) for each calendar month (on an as received basis); and
- f. the cumulative facility-wide natural gas usage rate(s) for each calendar month on an as-received basis.

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 with 0.5% sulfur by weight 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 OAC rule 3745-18-04(F) and 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) and, for the first 12 calendar months of operation, 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 limitation(s) in b) shall be determined in accordance with the following method(s):
  - 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<sub>x</sub> 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<sub>x</sub> per mmBtu of heat input when combusting fuel oil

Applicable Compliance Method: using flue gas recirculation

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<sub>x</sub> from emissions units B011 through B016, B019, and B020 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<sub>x</sub> 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<sub>x</sub> per mmBtu of heat input - worst case manufacturer's emission factor for B011 – B016) 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<sub>x</sub> per mmBtu of heat input - worst case manufacturer's emission factor for B011 – B016) 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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 (SO<sub>2</sub>) from emissions units B011 through B016, B019, and B020 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 million Mscft per year). At 140 mmBtu per 1000 gallons, fuel oil usage accounts for 140,000 mmBtu of heat input per year.

The annual emissions of SO<sub>2</sub> 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 SO<sub>2</sub> 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 (0.6 pound of SO<sub>2</sub> 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.

$$(0.50 \text{ lb/mmBtu})(140,000 \text{ mmBtu/yr})(1 \text{ t}/2000 \text{ lb}) = 35.00 \text{ tpy}$$

$$(0.6 \text{ lb/mmcuft})(1,000 \text{ mmcuft/yr})(1 \text{ t}/2000 \text{ lb}) = 0.30 \text{ tpy}$$

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:

9.27 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:

1.06 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:

0.006 pound PM<sub>10</sub> 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 (5.7 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 1.4-2 (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 in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

r. Emission Limitation:

0.008 pound PM<sub>10</sub> 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 (1.08 pounds of PM<sub>10</sub> per 1000 gallons) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.3,

Table 1.3-7 (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 in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

s. Emission Limitation:

0.80 ton of PM<sub>10</sub> 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 PM<sub>10</sub> 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 (0.008 pound of PM<sub>10</sub> 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 (5.7 pound of PM<sub>10</sub> 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.

$$(0.008 \text{ lb/mmBtu})(140,000 \text{ mmBtu/yr})(1 \text{ t}/2000 \text{ lb}) = 0.56 \text{ tpy}$$

$$(5.7 \text{ lb/mmcuft})(84.3 \text{ mmcuft/yr})(1 \text{ t}/2000 \text{ lb}) = 0.24 \text{ tpy}$$

t. Emission Limitation:

0.011 pound OC 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 (11 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.

u. Emission Limitation:

0.004 pound OC 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 (0.556 pound of OC 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 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.

v. Emission Limitation:

1.24 tons of OC 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 (0.011 pounds OC per mmBtu for natural gas vs. 0.004 pound OC 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 OC may be calculated by multiplying the technical emissions limitation (0.011 pound of OC 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.