



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address

TELE: (614) 644-3020 FAX: (614) 644-2329

P.O. Box 1049  
Columbus, OH 43216-1049

08/27/98

CERTIFIED MAIL

01-25-04-0566

RE: Final Chapter 3745-35 Permit To Operate

The Timken Company Columbus Bearing Plant  
Jamie M Milobar  
1835 Dueber Ave., S.W.  
GNE-02  
Canton, OH 44706

Dear Jamie M Milobar:

The enclosed Permit(s) to Operate allow you to operate the described emissions unit(s) in the manner indicated in the Permit(s). Because each permit contains several terms and conditions, I urge you to read them carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. It is also requested by the Director that a copy of the appeal be served upon the Environmental Enforcement Section of the Office of the Attorney General. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
236 East Town Street  
Room 300  
Columbus, Ohio 43215

If you have any questions, please contact the Central District Office at (614) 728-3778.

Very truly yours,

Thomas G. Rigo, Manager  
Field Operations and Permit Section  
Division of Air Pollution Control

cc: Central District Office  
Jim Orlemann, DAPC Engineering  
Becky Castle, DAPC PMU

## PERMIT TO OPERATE AN EMISSIONS UNIT

Effective Date: 08/27/98

Facility ID: 01-25-04-0566

Expiration Date: 08/27/03

FINAL ISSUE

This document constitutes issuance for:

The Timken Company Columbus Bearing Plant  
1025 Cleveland Ave.  
Columbus, OH 43201

of a permit to operate for:

B004 (No. 1 Boiler)  
Generates steam for processes

### PART I General Terms & Conditions

#### 1. Compliance Requirements

The above-described emissions unit is and shall remain in full compliance with all applicable State and federal laws and regulations and the terms and conditions of this permit.

#### 2. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

#### 3. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### **4. Records Retention Requirements**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of three years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

#### **5. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State and federal air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

#### **6. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions unit or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of this emissions unit(s) that is (are) served by such control system(s).

#### **Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permittee. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

#### **8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

#### **9. Permit Renewal**

Approximately six months prior to the expiration date of this permit, a notice regarding the renewal of this permit will be sent to the permittee's designated facility contact. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency. It is the permittee's responsibility to renew this permit even if no notice of its expiration is received.

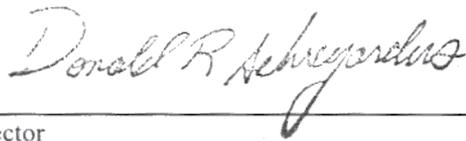
The following Ohio EPA District Office or local air agency has jurisdiction in the area in which the facility is located:

Central District Office  
3232 Alum Creek Drive  
PO Box 1049  
Columbus, OH 43216-1049  
(614) 728-3778

You will be contacted approximately six months prior to expiration date regarding the renewal of this permit. If you are not contacted, please contact the Central District Office.

10. The permittee is also subject to the attached special terms and conditions.

OHIO ENVIRONMENTAL PROTECTION AGENCY



Director

**Part II: Special Terms and Conditions**

**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
B004 - 64 MMBtu/hr natural gas, no.2 distillate oil, and no. 6 residual oil fired boiler.	OAC 3745-17-10(C)(1)	Particulate matter (PM) emissions from this emissions unit (B004) shall not exceed 0.23 pound PM per million Btu (MMBtu) of actual heat input when combusting no.6 fuel oil.
	40 CFR 52.1881(b)(27)(ii) OAC 3745-18-06(D)	Sulfur dioxide (SO <sub>2</sub> ) emissions limitation for this emissions unit (B004) shall not exceed 1.5 pounds SO <sub>2</sub> per million Btu of actual heat input.
	OAC 3745-17-07(A)(1)(a)	Visible emissions shall not exceed 20 % opacity as a six-minute average, except as specified by rule.
	OAC 3745-35-07	SO <sub>2</sub> emissions from emissions units B004 and B005 shall not exceed 95.9 tons SO <sub>2</sub> per year.
	OAC 3745-35-07	Nitrogen oxides (NO <sub>x</sub> ) emissions from emissions units B004 and B005 shall not exceed 79.3 tons NO <sub>x</sub> per year.
	OAC 3745-17-10(B)(1)	Particulate matter emissions from this emissions unit (B004) shall not exceed 0.020 pound PM per million Btu of actual heat input when combusting only natural gas and/or no.2 fuel oil.

**2. Additional Terms and Conditions**

None

**B. Operational Restrictions**

- The sulfur content of the fuel oil (no.2 distillate oil or no. 6 residual oil) combusted in emissions units B004 and B005 shall not exceed 1.4%.
- The quality of the fuel oil (no.2 distillate oil or no.6 residual oil) burned in emissions units B004 and B005 shall meet, on an as-received basis, a sulfur and heat content which is sufficient to comply with the allowable SO<sub>2</sub> emissions limitation of 1.5 pounds SO<sub>2</sub> per million Btu of actual heat input.

Compliance with the above-mentioned specifications shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of fuel oil received (see Section C.1).

**B. Operational Restrictions (continued)**

3. The maximum annual natural gas consumption limitation for B004 and B005 shall not exceed 791 million cubic feet, based upon a rolling, 12-month summation of the monthly consumption rates.

To ensure federal enforceability during the first twelve calendar months of operation following the issuance of this permit to operate, the permittee shall not exceed the natural gas consumption levels specified in the following table for emissions units B004 and B005:

**MONTH(s) NATURAL GAS CONSUMPTION (million cubic feet)**

1-1	99
1-2	198
1-3	297
1-4	395
1-5	445
1-6	494
1-7	544
1-8	593
1-9	643
1-10	692
1-11	741
1-12	791

After the first twelve months of operation following the issuance of this permit, compliance with the annual natural gas consumption limitation for emissions unit B004 and B005 shall be based upon a rolling, 12-month summation of the monthly natural gas consumption rates.

4. The maximum annual fuel oil (no.2 distillate oil or no.6 residual oil) consumption limitation for B004 and B005 shall not exceed 870,453 gallons, based upon a rolling, 12-month summation of the monthly consumption rates.

To ensure federal enforceability during the first twelve calendar months of operation following the issuance of this permit to operate, the permittee shall not exceed the fuel oil consumption levels specified in the following table for emissions units B004 and B005:

**MONTH(s) FUEL OIL CONSUMPTION (gallons)**

1-1	108,807
1-2	217,613
1-3	326,420
1-4	435,226
1-5	489,630
1-6	544,033
1-7	598,436
1-8	652,839
1-9	707,243
1-10	761,646
1-11	816,049
1-12	870,453

After the first twelve months of operation following the issuance of this permit, compliance with the annual fuel oil consumption limitation for B004 and B005 shall be based upon a rolling, 12-month summation of the monthly fuel oil consumption rates.

**C. Monitoring and/or Record Keeping Requirements**

1. The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in emissions units B004 and B005. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternatively, equivalent methods may be used upon written approval by the Ohio EPA, Central District Office.

**C. Monitoring and/or Record Keeping Requirements (continued)**

2. For the fuel oil received for burning in emissions units B004 and B005, the permittee shall maintain records of the following:
  - a. the total quantity of fuel oil received in each shipment (gallons)
  - b. the sulfur content (percent) of the fuel oil received in each shipment;
  - c. the heat content (Btu/gallon) of the fuel oil received in each shipment
  - d. the sulfur dioxide emissions rate (pounds SO<sub>2</sub> per million Btu of actual heat input) of the fuel oil received in each shipment; and
  - e. monthly calculations of the weighted average sulfur content, heat content, and sulfur dioxide emissions rate for all fuel oil received during each calendar month, and the total gallons of fuel oil burned in emissions units B004 and B005 during each calendar month.
3. The permittee shall also maintain monthly records of the following information for emissions units B004 and B005:
  - a. the fuel oil consumption rate for B004 and B005, in gallons
  - b. the rolling, 12-month summation of the fuel oil consumption for B004 and B005, in gallons.
  - c. the natural gas consumption rate for B004 and B005, in million cubic feet;
  - d. the rolling, 12-month summation of the natural gas consumption for B004 and B005, in million cubic feet;
  - e. the sulfur dioxide emissions from B004 and B005, in tons per month;  
the rolling, 12-month summation of the sulfur dioxide emissions from B004 and B005, in tons
  - g. the nitrogen oxides emissions from B004 and B005, in tons per month; and
  - h. the rolling, 12-month summation of the nitrogen oxides emissions from B004 and B005, in tons

**Reporting Requirements**

1. The permittee shall submit semi-annual deviation (excursion) reports that identify all exceedances of the rolling, 12-month natural gas and fuel oil consumption rate limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and fuel oil consumption levels for emissions units B004 and B005 specified in Sections B.3 and B.4 of this permit. These reports shall be submitted to the Central District Office by February 15 and August 15 of each year and shall cover the previous six months (July to December and January to June, respectively). If no deviations occurred during the reporting period, a semi-annual report shall be submitted which states that no deviations occurred during that reporting period.
2. The permittee shall submit semi-annual deviation (excursion) reports which identify any exceedances of the fuel oil sulfur content limitation and the sulfur dioxide and nitrogen oxides emissions limitations for emissions units B004 and B005 listed in Sections B.1 and A.1 of this permit, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted to the Central District Office by February 15 and August 15 of each year and shall cover the previous six months (July to December and January to June, respectively). If no deviations occurred during the reporting period, a semi-annual report shall be submitted which states that no deviations occurred during that reporting period.
3. The permittee shall submit an annual report which summarizes the total sulfur dioxide and nitrogen oxides emissions from B004 and B005, and the total natural gas and fuel oil consumed in emissions units B004 and B005 for the previous calendar year (i.e., January through December). The permittee shall submit this report to the Central District Office by February 15 of each year.

## E. Testing Requirements

1. Compliance with the emissions limitation(s) outlined in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

Emissions Limitation: Visible particulate emissions shall not exceed 20% opacity as a six-minute average except as provided by rule.

Compliance Method: Compliance with the visible emissions limitation shall be determined in accordance with the methods outlined in OAC 3745-17-03(B)(1).

2. Emissions Limitation: 0.23 pound PM per million Btu of actual heat input.

Compliance Method: Compliance with this PM emissions limitation is only required when no. 6 fuel oil is combusted. Compliance shall be demonstrated by using the following equation to determine the PM emissions factor:

$$\text{PM Emissions Factor (lbs PM/MMBtu)} = [(9.19 * (S) + 3.22) \text{ lbs PM/1000 gal}] / H$$

where, S is the actual weight % sulfur in the fuel, and H is the actual fuel oil heat content (MMBtu/1000 gal). S and H are determined from permittee's or fuel oil supplier's analyses (see Section C.1).

3. Emissions Limitation: 1.50 pounds SO<sub>2</sub> per million Btu of actual heat input.

Compliance Method: Compliance with the SO<sub>2</sub> emissions limitation is only required when fuel oil is combusted. Compliance shall be demonstrated by using the following equations to determine the SO<sub>2</sub> emissions factor:

For No. 2 distillate oil, the SO<sub>2</sub> emissions factor is determined by:  
SO<sub>2</sub> Emissions Factor (lbs SO<sub>2</sub>/MMBtu) = [(142 \* (S) lbs SO<sub>2</sub>/1000 gal)] / H

For No. 6 residual oil, the SO<sub>2</sub> emissions factor is determined by:  
SO<sub>2</sub> Emissions Factor (lbs SO<sub>2</sub>/MMBtu) = [(157 \* (S) lbs SO<sub>2</sub>/1000 gal)] / H

where, S is the actual weight % sulfur in the fuel, and H is the actual fuel oil heat content (MMBtu/1000 gal). S and H are determined from permittee's or fuel oil supplier's analyses (see Section C.1).

4. Emissions Limitation: The emissions of SO<sub>2</sub> from B004 and B005 shall not exceed 95.9 tons SO<sub>2</sub> per year as a rolling, 12-month summation.

Compliance Method: Compliance with the rolling, 12-month SO<sub>2</sub> emissions limitation specified in section A.1 shall be demonstrated by determining the SO<sub>2</sub> emissions from natural gas, no.2 distillate oil, and no.6 residual oil combustion in emissions units B004 and B005. The following emissions factors from AP-42, 5th edition, shall be used:

Total SO<sub>2</sub> Emissions = Summation SO<sub>2</sub> Emissions [natural gas combustion + no.2 distillate oil combustion + no.6 residual oil combustion]

SO<sub>2</sub> emissions from natural gas combustion: Rolling, 12-month natural gas consumption (MM cubic feet) x 0.6 lb SO<sub>2</sub>/MM cubic feet natural gas burned x 1 Ton/2000 lbs = Tons SO<sub>2</sub> per year.

SO<sub>2</sub> emissions from distillate oil combustion: Rolling, 12-month no.2 distillate oil consumption (1000 gallons) x 142\*(% S, sulfur content) lbs SO<sub>2</sub>/1000 gal distillate oil burned x 1 Ton/2000 lbs = Tons SO<sub>2</sub> per year.

SO<sub>2</sub> emissions from residual oil combustion: Rolling, 12-month no.6 residual oil consumption (1000 gallons) x 157\*(% S, sulfur content) lbs SO<sub>2</sub>/1000 gal residual oil burned x 1 Ton/2000 lbs = Tons SO<sub>2</sub> per year.

**E. Testing Requirements (continued)**

5. Emissions Limitation: The emissions of NOx from emissions units B004 and B005 shall not exceed 79.3 tons NOx per year as a rolling, 12-month summation of the monthly NOx emissions.

Compliance Method: Compliance with the rolling, 12-month NOx emissions limitation specified in Section A.1 shall be demonstrated by determining the NOx emissions from natural gas, no.2 distillate oil, and no.6 residual oil combustion in emissions units B004 and B005. The following emissions factors from AP-42, 5th edition, shall be used:

NOx emissions from natural gas combustion: Rolling, 12-month natural gas consumption (MM cubic feet) x 140 lbs NOx/MM cubic feet natural gas burned x 1 Ton/2000 lbs = Tons NOx per year.

NOx emissions from distillate oil combustion: Rolling, 12-month no.2 distillate oil consumption (1000 gallons) x 20 lbs NOx/1000 gal distillate oil burned x 1 Ton/2000 lbs = Tons NOx per year.

NOx emissions from residual oil combustion: Rolling, 12-month no.6 residual oil consumption (1000 gallons) x 55 lbs NOx/1000 gal residual oil burned x 1 Ton/2000 lbs = Tons NOx per year.

6. Emission Limitation: 0.020 pound PM per million Btu of actual heat input, when burning natural gas and/or no.2 fuel oil.

Applicable Compliance Method: compliance shall be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (64,000 cu.ft/hr) by the AP-42, 5th Edition, emission factor for natural gas combustion (6.2 lbs/MM cubic feet), and dividing by the maximum hourly heat input capacity of the emissions unit (64 MMBtu/hr). For the use of no.2 fuel oil, if required, the permittee shall demonstrate compliance with this limitation in accordance with the method(s) and procedures specified in OAC rule 3745-17-03(B)(9).

**F. Miscellaneous Requirements**

1. Sections A,B,C,D,E, and F of these terms and conditions constitute the federally enforceable portions of this permit.



## PERMIT TO OPERATE AN EMISSIONS UNIT

Effective Date: 8/27/98

Facility ID: 01-25-04-0566

Expiration Date: 08/27/03

FINAL ISSUE

This document constitutes issuance for:

The Timken Company Columbus Bearing Plant  
1025 Cleveland Ave.  
Columbus, OH 43201

of a permit to operate for:

B005 (No. 2 Boiler )  
Generates steam for processes

### PART I General Terms & Conditions

#### Compliance Requirements

The above-described emissions unit is and shall remain in full compliance with all applicable State and federal laws and regulations and the terms and conditions of this permit.

#### 2. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

#### 3. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### **4. Records Retention Requirements**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of three years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

#### **5. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State and federal air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

#### **6. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions unit or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of this emissions unit(s) that is (are) served by such control system(s).

#### **7. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permittee. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

#### **8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

#### **9. Permit Renewal**

Approximately six months prior to the expiration date of this permit, a notice regarding the renewal of this permit will be sent to the permittee's designated facility contact. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency. It is the permittee's responsibility to renew this permit even if no notice of its expiration is received.

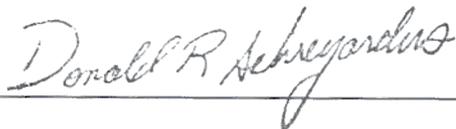
The following Ohio EPA District Office or local air agency has jurisdiction in the area in which the facility is located:

Central District Office  
3232 Alum Creek Drive  
PO Box 1049  
Columbus, OH 43216-1049  
(614) 728-3778

You will be contacted approximately six months prior to expiration date regarding the renewal of this permit. If you are not contacted, please contact the Central District Office.

10. The permittee is also subject to the attached special terms and conditions

**OHIO ENVIRONMENTAL PROTECTION AGENCY**



Director

**Part II: Special Terms and Conditions**

**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
B005 - 64.6 MMBtu/hr natural gas, no.2 distillate oil, and no. 6 residual oil fired boiler.	OAC 3745-17-10(C)(1)	Particulate matter (PM) emissions from this emissions unit (B005) shall not exceed 0.23 pound PM per million Btu (MMBtu) of actual heat input when combusting no.6 residual oil.
	40 CFR 52.1881(b)(27)(ii) OAC 3745-18-06(D)	Sulfur dioxide (SO <sub>2</sub> ) emissions limitation for this emissions unit (B005) shall not exceed 1.5 pounds SO <sub>2</sub> per million Btu of actual heat input.
	OAC 3745-17-07(A)(1)(a)	Visible emissions shall not exceed 20 % opacity as a six-minute average, except as specified by rule.
	OAC 3745-35-07	Sulfur dioxide (SO <sub>2</sub> ) emissions from emissions units B004 and B005 shall not exceed 95.9 tons SO <sub>2</sub> per year.
	OAC 3745-35-07	Nitrogen oxides (NO <sub>x</sub> ) emissions from emissions units B004 and B005 shall not exceed 79.3 tons NO <sub>x</sub> per year.
	OAC 3745-17-10(B)(1)	Particulate matter emissions from this emissions unit (B005) shall not exceed 0.020 pound PM per million Btu of actual heat input when combusting natural gas and/or no.2 distillate oil only.

**2. Additional Terms and Conditions**

None

**B. Operational Restrictions**

- The sulfur content of the fuel oil (no.2 distillate oil or no. 6 residual oil) combusted in emissions units B004 and B005 shall not exceed 1.4%.
- The quality of the fuel oil (no.2 distillate oil or no.6 residual oil) burned in emissions units B004 and B005 shall meet, on an as-received basis, a sulfur and heat content which is sufficient to comply with the allowable SO<sub>2</sub> emissions limitation of 1.5 pounds SO<sub>2</sub> per million Btu of actual heat input.

Compliance with the above-mentioned specifications shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of fuel oil received (see Section C.1).

**B. Operational Restrictions (continued)**

3. The maximum annual natural gas consumption limitation for B004 and B005 shall not exceed 791 million cubic feet, based upon a rolling, 12-month summation of the monthly consumption rates.

To ensure federal enforceability during the first twelve calendar months of operation following the issuance of this permit to operate, the permittee shall not exceed the natural gas consumption levels specified in the following table for emissions units B004 and B005:

**MONTH(s) NATURAL GAS CONSUMPTION (million cubic feet)**

1-1	99
1-2	198
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1-11	741
1-12	791

After the first twelve months of operation following the issuance of this permit, compliance with the annual natural gas consumption limitation for emissions unit B004 and B005 shall be based upon a rolling, 12-month summation of the monthly natural gas consumption rates.

4. The maximum annual fuel oil (no.2 distillate oil or no.6 residual oil) consumption limitation for B004 and B005 shall not exceed 870,453 gallons, based upon a rolling, 12-month summation of the monthly consumption rates.

To ensure federal enforceability during the first twelve calendar months of operation following the issuance of this permit to operate, the permittee shall not exceed the fuel oil consumption levels specified in the following table for emissions units B004 and B005:

**MONTH(s) FUEL OIL CONSUMPTION (gallons)**

1-1	108,807
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1-7	598,436
1-8	652,839
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1-11	816,049
1-12	870,453

After the first twelve months of operation following the issuance of this permit, compliance with the annual fuel oil consumption limitation for B004 and B005 shall be based upon a rolling, 12-month summation of the monthly fuel oil consumption rates.

**C. Monitoring and/or Record Keeping Requirements**

1. The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in emissions units B004 and B005. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternatively, equivalent methods may be used upon written approval by the Ohio EPA, Central District Office.

**C. Monitoring and/or Record Keeping Requirements (continued)**

2. For the fuel oil received for burning in emissions units B004 and B005, the permittee shall maintain records of the following:
  - a. the total quantity of fuel oil received in each shipment (gallons);
  - b. the sulfur content (percent) of the fuel oil received in each shipment;
  - c. the heat content (Btu/gallon) of the fuel oil received in each shipment;
  - d. the sulfur dioxide emissions rate (pounds SO<sub>2</sub> per million Btu of actual heat input) of the fuel oil received in each shipment; and
  - e. monthly calculations of the weighted average sulfur content, heat content, and sulfur dioxide emissions rate for all fuel oil received during each calendar month, and the total gallons of fuel oil burned in emissions units B004 and B005 during each calendar month.
3. The permittee shall also maintain monthly records of the following information for emissions units B004 and B005:
  - a. the fuel oil consumption rate for B004 and B005, in gallons;
  - b. the rolling, 12-month summation of the fuel oil consumption for B004 and B005, in gallons;
  - c. the natural gas consumption rate for B004 and B005, in million cubic feet;
  - d. the rolling, 12-month summation of the natural gas consumption for B004 and B005, in million cubic feet;
  - e. the sulfur dioxide emissions from B004 and B005, in tons per month;
  - f. the rolling, 12-month summation of the sulfur dioxide emissions from B004 and B005, in tons;
  - g. the nitrogen oxides emissions from B004 and B005, in tons per month; and
  - h. the rolling, 12-month summation of the nitrogen oxides emissions from B004 and B005, in tons.

**D. Reporting Requirements**

1. The permittee shall submit semi-annual deviation (excursion) reports that identify all exceedances of the rolling, 12-month natural gas and fuel oil consumption rate limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and fuel oil consumption levels for emissions units B004 and B005 specified in Sections B.3 and B.4 of this permit. These reports shall be submitted to the Central District Office by February 15 and August 15 of each year and shall cover the previous six month calendar periods July to December and January to June, respectively. If no deviations occurred during the reporting period, a semi-annual report shall be submitted which states that no deviations occurred during that reporting period.
2. The permittee shall submit semi-annual deviation (excursion) reports which identify any exceedances of the fuel oil sulfur content limitation and the sulfur dioxide and nitrogen oxides emissions limitations for emissions units B004 and B005 listed in Sections B.1 and A.1 of this permit, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted to the Central District Office by February 15 and August 15 of each year and shall cover the previous six month calendar periods July to December and January to June, respectively. If no deviations occurred during the reporting period, a semi-annual report shall be submitted which states that no deviations occurred during that reporting period.
3. The permittee shall submit an annual report which summarizes the total sulfur dioxide and nitrogen oxides emissions from B004 and B005, and the total natural gas and fuel oil consumed in emissions units B004 and B005 for the previous calendar year (i.e., January through December). The permittee shall submit this report to the Central District Office by February 15 of each year.

## E. Testing Requirements

1. Compliance with the emissions limitation(s) outlined in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):

Emissions Limitation: Visible particulate emissions shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Compliance Method: Compliance with the visible emissions limitation shall be determined in accordance with the methods outlined in OAC 3745-17-03(B)(1).

2. Emissions Limitation: 0.23 pound PM per million Btu of actual heat input.

Compliance Method: Compliance with this PM emissions limitation is only required when no. 6 residual oil is combusted. Compliance shall be demonstrated by using the following equation to determine the PM emissions factor:

$$\text{PM Emissions Factor (lbs PM/MMBtu)} = [(9.19 * (S) + 3.22) \text{ lbs PM/1000 gal}] / H$$

where, S is the actual weight % sulfur in the fuel, and H is the actual fuel oil heat content (MMBtu/1000 gal). S and H are determined from permittee's or fuel oil supplier's analyses (see Section C.1).

3. Emissions Limitation: 1.50 pounds SO<sub>2</sub> per million Btu of actual heat input.

Compliance Method: Compliance with the SO<sub>2</sub> emissions limitation is only required when fuel oil is combusted. Compliance shall be demonstrated by using the following equations to determine the SO<sub>2</sub> emissions factor:

For No. 2 distillate oil, the SO<sub>2</sub> emissions factor is determined by:

$$\text{SO}_2 \text{ Emissions Factor (lbs SO}_2\text{/MMBtu)} = [(142 * (S) \text{ lbs SO}_2\text{/1000 gal})] / H$$

For No. 6 residual oil, the SO<sub>2</sub> emissions factor is determined by:

$$\text{SO}_2 \text{ Emissions Factor (lbs SO}_2\text{/MMBtu)} = [(157 * (S) \text{ lbs SO}_2\text{/1000 gal})] / H$$

where, S is the actual weight % sulfur in the fuel, and H is the actual fuel oil heat content (MMBtu/1000 gal). S and H are determined from permittee's or fuel oil supplier's analyses (see Section C.1).

4. Emissions Limitation: The emissions of SO<sub>2</sub> from B004 and B005 shall not exceed 95.9 tons SO<sub>2</sub> per year as a rolling, 12-month summation.

Compliance Method: Compliance with the rolling, 12-month SO<sub>2</sub> emissions limitation specified in section A.1 shall be demonstrated by determining the SO<sub>2</sub> emissions from natural gas, no.2 distillate oil, and no.6 residual oil combustion in emissions units B004 and B005. The following emissions factors from AP-42, 5th edition, shall be used:

Total SO<sub>2</sub> Emissions = Summation SO<sub>2</sub> Emissions [natural gas combustion + no.2 distillate oil combustion + no.6 residual oil combustion]

SO<sub>2</sub> emissions from natural gas combustion: Rolling, 12-month natural gas consumption (MM cubic feet) x 0.6 lb SO<sub>2</sub>/MM cubic feet natural gas burned x 1 Ton/2000 lbs = Tons SO<sub>2</sub> per year.

SO<sub>2</sub> emissions from distillate oil combustion: Rolling, 12-month no.2 distillate oil consumption (1000 gallons) x 142\*(% S, sulfur content) lbs SO<sub>2</sub>/1000 gal distillate oil burned x 1 Ton/2000 lbs = Tons SO<sub>2</sub> per year.

SO<sub>2</sub> emissions from residual oil combustion: Rolling, 12-month no.6 residual oil consumption (1000 gallons) x 157\*(% S, sulfur content) lbs SO<sub>2</sub>/1000 gal residual oil burned x 1 Ton/2000 lbs = Tons SO<sub>2</sub> per year.

**E. Testing Requirements (continued)**

5. Emissions Limitation: The emissions of NOx from emissions units B004 and B005 shall not exceed 79.3 tons NOx per year as a rolling, 12-month summation of the monthly NOx emissions.

Compliance Method: Compliance with the rolling, 12-month NOx emissions limitation specified in Section A.1 shall be demonstrated by determining the NOx emissions from natural gas, no.2 distillate oil, and no.6 residual oil combustion in emissions units B004 and B005. The following emissions factors from AP-42, 5th Edition, shall be used:

NOx emissions from natural gas combustion: Rolling, 12-month natural gas consumption (MM cubic feet) x 140 lbs NOx/MM cubic feet natural gas burned x 1 Ton/2000 lbs = Tons NOx per year.

NOx emissions from distillate oil combustion: Rolling, 12-month no.2 distillate oil consumption (1000 gallons) x 20 lbs NOx/1000 gal distillate oil burned x 1 Ton/2000 lbs = Tons NOx per year.

NOx emissions from residual oil combustion: Rolling, 12-month no.6 residual oil consumption (1000 gallons) x 55 lbs NOx/1000 gal residual oil burned x 1 Ton/2000 lbs = Tons NOx per year.

6. Emission Limitation: 0.020 pound PM per million Btu of actual heat input, when burning natural gas and/or no.2 distillate oil.

Applicable Compliance Method: compliance shall be determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (64,600 cu.ft/hr) by the AP-42, 5th Edition, emission factor for natural gas combustion (6.2 lbs/MM cubic feet), and dividing by the maximum hourly heat input capacity of the emissions unit (64.6 MMBtu/hr). For the use of no.2 distillate oil, if required, the permittee shall demonstrate compliance with this limitation in accordance with the method(s) and procedures specified in OAC rule 3745-17-03(B)(9).

**F. Miscellaneous Requirements**

1. Sections A,B,C,D,E, and F of these terms and conditions constitute the federally enforceable portions of this permit.