



State of Ohio Environmental Protection Agency

RE: DRAFT PERMIT TO INSTALL CERTIFIED MAIL  
DEFIANCE COUNTY

Street Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:  
Lazarus Gov. Center

Application No: 03-13364

DATE: 5/30/00

GM Powertrain Group, Defiance Plant  
William R. Schlatter  
26437 State Route 281 East 26437 State Route 281 East  
Defiance, OH 435120070

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on 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 proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of \$14000 will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

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

CC: USEPA  
Indiana

NWDO

Michigan



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: To be entered upon final issuance

**DRAFT PERMIT TO INSTALL 03-13364**

Application Number: 03-13364  
APS Premise Number: 0320010001  
Permit Fee: **To be entered upon final issuance**  
Name of Facility: GM Powertrain Group, Defiance Plant  
Person to Contact: William R. Schlatter  
Address: 26437 State Route 281 East 26437 State Route 281 East  
Defiance, OH 435120070

Location of proposed air contaminant source(s) [emissions unit(s)]:

**26427 State Route 281 East  
Defiance, Ohio**

Description of proposed emissions unit(s):

**Installation of new aluminum casting process.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

**A. State and Federally Enforceable Permit To Install General Terms and Conditions****1. Monitoring and Related Recordkeeping and Reporting Requirements**

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - i. The date, place (as defined in the permit), and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five 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 this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
  - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written 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. See B.11 below if no deviations occurred during the quarter.

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- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

## **2. 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, i.e., upset, of any emissions units 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 the emission unit(s) that is (are) served by such control system(s).

## **3. Risk Management Plans**

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

## **4. Title IV Provisions**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

## **5. Severability Clause**

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A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

**6. General Requirements**

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. 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 request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

**7. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

**8. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit

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shall not be federally enforceable and shall be enforceable under State law only.

## **9. Compliance Requirements**

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

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**10. Permit To Operate Application**

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
  
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

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**B. State Only Enforceable Permit To Install General Terms and Conditions**

**1. Compliance Requirements**

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

**2. 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 of state-only enforceable 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 state-only required 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.)

**3. Permit Transfers**

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

**4. 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.

**5. Termination of Permit To Install**

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### **6. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

#### **7. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

#### **8. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

#### **9. Best Available Technology**

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As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**10. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**11. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

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.

**C. Permit To Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
NO <sub>x</sub>	53.88
PM <sub>10</sub>	82.30
VOC	46.27
CO	97.77
HF	0.7

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## Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

## A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

1. Netting Determination - Contemporaneous Emissions Increases and Decreases

Listed below are the sources that GMC Powertrain has removed or will remove (based on actual) or will control, as well as the new sources. For all units that are installing controls, or being shut down, to gain a net decrease, the permittee shall install the controls proposed on those units, or accomplish the permanent shut down of the units involved, prior to startup of the units under this permit.

## PM EMISSIONS INCREASE (TPY)

<u>CONST.STARTUP</u>					
<u>DATE</u>	<u>DATE</u>	<u>PTI#</u>	<u>SOURCE</u>		<u>INCREASE</u>
5/3/95	8/1/95	03-8591	P383 Hot Box Core Mach. #96- Plt. 1		4.14
5/3/95	8/1/95	03-8591	P384 Hot Box Core Mach. #97- Plt. 1		4.14
5/3/95	8/1/95	03-8591	P385 Hot Box Core Mach. #98- Plt. 1		5.80
5/3/95	8/1/95	03-8591	P386 Hot Box Core Mach. #99- Plt. 1		5.80
5/17/95	10/30/95	03-8574	P380 No. 12 Cleaning Cabinet		
				20.72	
5/17/95	10/30/95	03-8574	P381 Head Grinder- Gen.III-Plt.1		
				3.20	
5/17/95	10/30/95	03-8574	P382 Gen. III Head Facilities-Misc. Equipment Plt. 1		19.45
4/24/96	9/1/96	03-9568	P393 2.35 TPH Shot Reclaim Syst.		
				1.10	
5/3/95	10/22/96	03-8624	P387 Cold Box Core Mach. #93, 94, 95		
				0.63	
3/27/96	4/1/97	03-9233	P388 H. B. Core Mach. #100-101		3.61
3/27/96	4/1/97	03-9233	P389 H. B. Core Mach. #102-103		5.43
3/27/96	4/1/97	03-9233	P391 H. B. Sand Syst. #100-101		2.26
3/27/96	4/1/97	03-9233	P392 H. B. Sand Syst. #102-103		2.26
5/3/95	4/21/97	03-8580	P379 Cold Box Core Mach. #89- Plt. 1		0.92
3/27/96	4/21/97	03-9233	P390 Dip Dry Coating Operation		0.67
4/23/97	10/1/97	03-10003	P394 C. B. Core Mach. #104, 105, 106		1.40
4/23/97	10/1/97	03-10003	P396 Core Wash Dry Oven #4&5	0.83	
8/1/97	12/1/97	03-10531	P401 C. B. Core Mach. #90- Plt. 1		1.13
9/1/97	12/1/97	03-10531	P402 Core Paste Oven @ CB #89 & 90		1.88
4/23/97	2/1/98	03-10003	P395 C. B. Core Mach. #107, 108, 109		1.40
1/11/98	7/11/98	03-10138	P397 C. B. Core Mach. #110, 111, 112		1.38
1/11/98	7/11/98	03-10138	P398 C. B. Core Mach. #113, 114, 115		1.38
5/27/98	7/11/98	03-10138	P399 Core Wash Dry Oven #6&7	0.83	
5/27/98	7/11/98	03-10191	P400 Blast Cabinet- sample cast; Plt. 2E	1.10	
8/1/97	4/20/98	03-10531	P401 Core Machine C.B. #90	1.13	
9/1/97	8/31/98	03-10531	P402 Oven Paste Dry for C.B. #89-90		0.43
4/1/99	1/01/00	03-13115	P403 Cold Box Core Machine #116		2.18
4/1/99	01/01/00	03-13115	P404 Cold Box Core Machine #117		2.18

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4/1/99	01/01/00	03-13115	P405 Cold Box Core Machine #118	2.18
4/1/99	01/01/00	03-13115	P406 Core Dipping and Oven	3.27
5/1/00	7/1/00	03-13375	P430 Cold Box Core Machine #119	2.18
4/1/00	01/01/01	03-13364	B003 Natural gas boiler	1.93
4/1/00	01/01/01	03-13364	B004 Natural gas boiler	1.93
4/1/00	01/01/01	03-13364	B005 Natural gas boiler	1.93
4/1/00	01/01/01	03-13364	P411 Castline#1	5.26
4/1/00	01/01/01	03-13364	P412 Castline #2	5.26
4/1/00	01/01/01	03-13364	P413 Castline#3	5.26
4/1/00	01/01/01	03-13364	P441 Castline#4	5.26
4/1/00	01/01/01	03-13364	P415-P418 Sand silos (1-4)	0.01
4/1/00	01/01/01	03-13364	P419 Sand Reclaim Furnace #1	4.73
4/1/00	01/01/01	03-13364	P420 Sand Reclaim Furnace #2	4.73
4/1/00	01/01/01	03-13364	P421 Sand Reclaim Furnace #3	4.73
4/1/00	01/01/01	03-13364	P422 Sand Reclaim Furnace #4	4.73
4/1/00	01/01/01	03-13364	P423 Receiving Furnace #1	4.46
4/1/00	01/01/01	03-13364	P424 Receiving Furnace #2	4.46
4/1/00	01/01/01	03-13364	P425 Receiving Furnace #3	4.46
4/1/00	01/01/01	03-13364	P426 Holding Furnace #1	4.46
4/1/00	01/01/01	03-13364	P427 Holding Furnace #2	4.46
4/1/00	01/01/01	03-13364	P428 Holding Furnace #3	4.46
4/1/00	01/01/01	03-13364	P429 Stack Melter	8.55
4/1/00	01/01/01	03-13364*	Preheater	0.07
4/1/00	01/01/01	03-13364*	HVAC unit	0.04
4/1/00	01/01/01	03-13364*	Cabinet Bead Blast units	0.063
4/1/00	01/01/01	03-13364*	6 cooling towers	6.12

**192.37 TPY**

\*unpermitted units

**PM EMISSIONS DECREASE (TPY)**

**SHUTDOWN**

<u>DATE</u>	<u>SOURCE</u>	<u>DECREASE</u>
10/1/95	P119 Oven- Core- Vert #18	5.91
10/1/95	P285 Oven-Dip Dry- @ Vert. #18	0.28
10/1/95	P286 Definner- @ Vert. #18	3.28
2/5/96	P174 Line #5 Shakeout	5.53
5/17/96	P051 Iron Pouring-L #11	1.46
5/17/96	P060 Iron Pouring-L #20	1.46
5/17/96	P061 Mold Cooling #11-20	9.62
5/17/96	P062 Casting Separation- L#11	6.01
5/17/96	P071 Casting Separation- L#20	6.01
5/17/96	P072 Shakeout- L#11 & 12	2.62
5/17/96	P076 Shakeout- L#19 & 20	2.62
7/1/96	P133 Core Machine- HB #4	6.48
12/1/96	P108 Vertical Oven #6	7.23
1/8/97	P267 Core Machine- CB #31	0.37
4/23/97	P206 Core Coating w/ oven; Cam area	0.83

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5/1/97	P133 Core Machine- HB #8	5.87
5/1/97	P251 Core Machine- HB #12	5.96
7/1/97	P102 Ovens Horiz- #1	12.04
7/1/97	P133 Core Machine- HB #10	7.43
7/15/97	P133 Core Machine- HB #7	7.71
7/31/97	P041-P046 Ajax Furnaces	61.56
9/1/97	*P139 Line #3 Casting Cooling	1.43
9/1/97	*P142 Line #3 Mold Cooling	2.74
9/1/97	*P173 Line #5 Mold Cooling	3.10
9/1/97	*P188 Cupola #4 Iron trough	2.17
1/1/98	P249 Core Machine- HB #25	11.93
1-2-98	P105 Vertical Oven #3	3.63
1-2-98	P111 Core Oven Vert. #10	2.30
1-2-98	P112 Core Oven Vert. #11	3.74
2/1/98	P133 Core Machine- HB #3	6.48
2/1/98	P133 Core Machine- HB #6	6.48
5/1/98	P133 Core Machine- HB #9	8.06
6/1/98	P185 Core Machine- HB #1	20.38
9/9/98	P267 Core Machines #30, 32	2.9
4/15/00	P258 Core Machines HB #34-35	4.07
4/15/00	P258 Core Machines HB #36-37	4.07
2/15/00	P292 Core Machines HB #38-39	4.07
2/15/00	P270 Core Machines HB #41-42	4.07
4/15/00	P211 and P297 Ovens HB #34-35	<u>1.20</u>
		<b>253.1 TPY</b>

\* EU's are still in operation but were previously uncontrolled. GMC Powertrain has installed control equipment on these units and is claiming credit for the actual reduction in emissions.

**VOC EMISSIONS INCREASE (TPY)**

<u>CONST.</u>	<u>STARTUP</u>			
<u>DATE</u>	<u>DATE</u>	<u>PTI#</u>	<u>SOURCE</u>	
			<u>INCREASE</u>	
5/3/95	8/1/95	03-8591	P383 Hot Box Core Mach. #96- Plt. 1	
			4.84	
5/3/95	8/1/95	03-8591	P384 Hot Box Core Mach. #97- Plt. 1	
			4.84	
5/3/95	8/1/95	03-8591	P385 Hot Box Core Mach. #98- Plt. 1	
			6.77	
5/3/95	8/1/95	03-8591	P386 Hot Box Core Mach. #99- Plt. 1	
			6.77	
5/3/95	10/22/96	03-8624	P387 Cold Box Core Mach. #93, 94, 95	
			3.42	
3/27/96	4/1/97	03-9233	P388 H. B. Core Mach. #100-101	4.21
3/27/96	4/1/97	03-9233	P389 H. B. Core Mach. #102-103	6.33
5/3/95	4/21/97	03-8580	P379 Cold Box Core Mach. #89- Plt. 1	
			4.16	
3/27/96	4/21/97	03-9233	P390 Dip Dry Coating Operation	9.04
4/23/97	10/1/97	03-10003	P394 C. B. Core Mach. #104, 105, 106	6.36
4/23/97	10/1/97	03-10003	P396 Core Wash Dry Oven #4&5	4.96

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8/1/97	12/1/97	03-10531	P401 C. B. Core Mach. #90; Plt. 1	5.09
4/23/97	2/1/98	03-10003	P395 C. B. Core Mach. #107, 108, 109	6.36
1/11/98	7/11/98	03-10138	P397 C. B. Core Mach. #110, 111, 112	6.26
1/11/98	7/11/98	03-10138	P398 C. B. Core Mach. #113, 114, 115	6.26
5/27/98	7/11/98	03-10138	P399 Core Wash Dry Oven #6&7	4.96
8/1/97	4/20/97	03-10531	P401 Core Machine C.B. #90	5.09
4/1/99	1/1/00	03-13115	P403 Cold Box Core Machine #116	10.28
4/1/99	1/1/00	03-13115	P404 Cold Box Core Machine #117	10.28
4/1/99	1/1/00	03-13115	P405 Cold Box Core Machine #118	10.28
4/1/99	1/1/00	03-13115	P406 Core Dipping/Oven	13.79
5/1/00	7/1/00	03-13375	4430 Cold Box Core Machine #119	10.28
3/1/00	01/01/01	03-13364	P407 Polystyrene bead preparations 0.44	
4/1/00	01/01/01	03-13364	B003 Natural gas boiler 0.53	
4/1/00	01/01/01	03-13364	B004 Natural gas boiler 0.53	
4/1/00	01/01/01	03-13364	B005 Natural gas boiler 0.53	
4/1/00	01/01/01	03-13364	P407-P410 Bead Prep (1-4) 36.79	
4/1/00	01/01/01	03-13364	P411 Castline#1	1.80
4/1/00	01/01/01	03-13364	P412 Castline #2 1.80	
4/1/00	01/01/01	03-13364	P413 Castline#3	1.80
4/1/00	01/01/01	03-13364	P441 Castline#4	1.80
4/1/00	01/01/01	03-13364	P419 Sand Reclaim Furnace #1	0.57
4/1/00	01/01/01	03-13364	P420 Sand Reclaim Furnace #2	0.57
4/1/00	01/01/01	03-13364	P421 Sand Reclaim Furnace #3	0.57
4/1/00	01/01/01	03-13364	P422 Sand Reclaim Furnace #4	0.57
4/1/00	01/01/01	03-13364	P423 Receiving Furnace #1	1.39
4/1/00	01/01/01	03-13364	P424 Receiving Furnace #2	1.39
4/1/00	01/01/01	03-13364	P425 Receiving Furnace #3	1.39
4/1/00	01/01/01	03-13364	P426 Holding Furnace #1 1.39	
4/1/00	01/01/01	03-13364	P427 Holding Furnace #2 1.39	
4/1/00	01/01/01	03-13364	P428 Holding Furnace #3 1.39	
4/1/00	01/01/01	03-13364	P429 Stack Melter	0.43
4/1/00	01/01/01	03-13364*	Preheater	0.05
4/1/00	01/01/01	03-13364*	HVAC unit	0.03
4/1/00	01/01/01	03-13364*	pattern-curing 4 units	4.46
4/1/00	01/01/01	03-13364*	pattern-making 4 units	4.46
4/1/00	01/01/01	03-13364*	pattern coating/drying stations (4) <u>0.08</u>	

**220.64 TPY**

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\*unpermitted units

## VOC EMISSIONS DECREASE (TPY)

<u>SHUTDOWN DATE</u>	<u>SOURCE</u>	<u>DECREASE</u>
10/1/95	P119 Oven- Core- Vert #18	6.06
10/1/95	P285 Oven-Dip Dry- @ Vert. #18	14.47
7/1/96	P133 Core Machine- HB #4	7.56
12/1/96	P108 Vertical Oven #6	8.55
1/8/97	P267 Core Machine- CB #31	1.68
1/8/97	P267 Core Machine- CB #31	1.68
4/23/97	P206 Core Coating w/ oven; Cam area	11.59
5/1/97	P133 Core Machine- HB #8	6.85
5/1/97	P251 Core Machine- HB #12	6.95
7/1/97	P102 Ovens Horiz- #1	10.08
7/1/97	P133 Core Machine- HB #10	8.66
7/15/97	P133 Core Machine- HB #7	9.00
1/1/98	P249 Core Machine- HB #25	13.92
1-2-98	P105 Vertical Oven #3	4.29
1-2-98	P111 Core Oven Vert. #10	11.51
1-2-98	P112 Core Oven Vert. #11	4.42
2/1/98	P133 Core Machine- HB #3	7.56
2/1/98	P133 Core Machine- HB #6	7.56
5/1/98	P133 Core Machine- HB #9	9.40
6/1/98	P185 Core Machine- HB #1	23.78
9/9/98	P267 Core Machines #30, 32	5.64
4/15/00	P258 Core Machines HB #34-35	11.86
4/15/00	P258 Core Machines HB #36-37	11.86
2/15/00	P292 Core Machines HB #38-39	11.86
2/15/00	P270 Core Machines HB #41-42	11.86
4/15/00	P211 and P297 Ovens HB #34-35	<u>1.42</u>
		<b>230.07 TPY</b>

The new change in emissions, due to the installation of the planned new source(s) in this PTI, over the contemporaneous time period, will be a net decrease of 60.73 TPY of PM<sub>10</sub> and a net decrease of 9.43 TPY of VOC.

## 2. Prevention of Significant Deterioration (PSD)

- a. Emissions units P411, P412, P413, P414, P419, P420, P421, P422, P423, P424, P425, P426, P427, P428, P429, B003, B004, and B005 as described in this Permit to Install (PTI), is subject to the applicable provisions of the Prevention of Significant Deterioration (PSD) regulations as promulgated by the United States Environmental Protection Agency (U.S. EPA). The authority to apply and enforce the PSD regulations has been delegated to the Ohio EPA.

In accordance with 40 CFR 124.15, 124.19, and 124.20 the following shall apply:

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- i. The effective date of the permit shall be 30 days after the service of notice to any public commentors the final decision to issue, modify or revoke and re-issue the permit, unless the service of notice is by mail, in which case the effective date of the permit shall be 33 days after the service notice; and
- ii. If an appeal is made to the Environmental Appeals Board of the U.S. EPA, the effective date of the permit is suspended until such time as the appeal is resolved or denied.

Appeals will be addressed to:

United State Environmental Protection Agency  
Environmental Appeals Board  
401 M Street, SW (MC-113do)  
Washington, DC 21460

## B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

### 1. AIR TOXICS

The permit to install for this permit action as evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

- a. Pollutant: hexane  
TLV (mg/m3): 176  
Maximum Hourly Emission Rate (lbs/hr): 0.083  
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 60\*  
MAGLC (ug/m3): 4,190
- b. Pollutant: pentane  
TLV (mg/m3): 1770  
Maximum Hourly Emission Rate (lbs/hr): 2.94  
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 668\*  
MAGLC (ug/m3): 42,143
- c. Pollutant: styrene  
TLV (mg/m3): 85  
Maximum Hourly Emission Rate (lbs/hr): 0.21

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Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 65\*\*

MAGLC (ug/m3): 2,024

\*The Predicted 1-Hour Maximum Ground-Level Concentration is a cumulative summation of the predicted 1-hour maximum ground-level concentrations from all applicable emissions units of this permit action, which include the following emissions units: B001, B002, B003, P411, P412, P413, P414, P419, P420, P421, P422, P423, P424, P425, P426, P428, P429 and the following exempt units: one Pre-heater and one HVAC unit.

\*\*The Predicted 1-Hour Maximum Ground-Level Concentration is a cumulative summation of the predicted 1-hour maximum ground-level concentrations from all applicable emissions units of this permit action, which include the following emissions units: P411, P412, P413, P414, P419, P420, P421, and P422.

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
  - a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
  - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
3. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

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4. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
  - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

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Facility ID: 0320010001

Emissions Unit: B003

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B003 - 22 mmBtu/hr natural gas boiler- Powerhouse boiler #1	40 <u>CFR</u> Part 52.21	40 CFR Part 60, Subpart Dc
	OAC rule 3745-31-(10-20)	
	OAC rule 3745-31-05(D)	
	OAC rule 3745-31-05(A)	
	OAC rule 3745-17-10(B)	
	OAC rule 3745-17-07(A)	

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Emissions Unit: B003**

Applicable Emissions Limitations/Control Measures	Recordkeeping (see A.I.2.c)
control requirements (see A.2.a)	
7.78 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based upon natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/ OAC rule 3745-31-(10-20), OAC rule 3745-17-10(B), OAC rule 3745-17-07(A) and 40 CFR Part 60, Subpart Dc. (See II.1)	
1.1 lb NO <sub>x</sub> /hr, 4.82 tons NO <sub>x</sub> /yr	
1.85 lbs carbon monoxide (CO)/hr, 8.1 tons CO/yr	
0.44 lb particulate emissions (PE)/hr, 1.9 tons PE/yr	
0.020 lb PE/mmBtu of actual heat input	
visible PE's shall not exceed 20% opacity as a six-minute average, except as provided by rule	

Emissions Unit: B003

## 2. Additional Terms and Conditions

- 2.a The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. boiler equipped with low NO<sub>x</sub> burners with flue gas recirculation and designed to emit NO<sub>x</sub> at a rate of 50 lbs/mmCf of natural gas burned.
- 2.b. In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units B003, B004 or B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr), shall not exceed 7.3 tons/yr based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c. The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.
- 2.d. All PE is assumed to be in the form of PM<sub>10</sub>.

## II. Operational Restrictions

1. The permittee shall burn only natural gas in this emissions unit.
2. The maximum annual natural gas usage for emissions unit B003, B004 or B005 and the exempted emissions units, one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) shall not exceed 311.1 mmCf/yr, combined, based upon a rolling 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	25.93
1-2	51.85
1-3	77.78
1-4	103.71
1-5	129.64
1-6	155.57
1-7	181.50
1-8	207.43
1-9	233.36

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1-10	259.29
1-11	285.22
1-12	311.10

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

### **III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee maintain monthly records of the following information for emissions unit B003, B004, B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) :
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage, in mmCf; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, in mmCf, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units B003, B004, B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) :
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, in tons, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

#### **IV. Reporting Requirements**

1. The permittee shall submit deviation(excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

#### **V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for NO<sub>x</sub>.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for NO<sub>x</sub>, Method 7 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to

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ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

2. Compliance Methods Requirements: Compliance with the emission limitations in section A.I of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 7.78 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.3.

- b. Emission Limitation: 1.1 lbs NO<sub>x</sub>/hr, 4.82 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 1.85 lbs CO/hr, 8.1 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate 22 mmBtu/hr and dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.44 lb PE/hr, 1.9 tons PE/yr

Applicable Compliance Method: The lb PE/hr was determined by multiplying the maximum heat input capacity of the boiler (22 mmBtu/hr) by the allowable emission rate

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of 0.020 lb PE/mmBtu of actual heat input. Therefore, provided compliance is shown with OAC 3745-17-10(B), compliance will also be shown with the lb/hr allowable.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method: The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly natural gas consumption rate (48,000 cu. ft./hr) by the appropriate emission factor from AP-42, Table 1.4-2 (revised 7/98) [1.9 lbs PE (filtrable)/mmCf. ft.] and dividing by the maximum heat input capacity of the boiler (22 mmBtu/hr). If required, compliance shall be determined in accordance with OAC rule 3745-17-03(B)(9).

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

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**B. State Only Enforceable Section**

**Facility ID: 0320010001**  
**Emissions Unit: B003**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B003- Powerhouse boiler #1		

**2. Additional Terms and Conditions**

**2.a** NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: B004

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B004 - 22 mmBtu/hr natural gas boiler- Powerhouse boiler #2	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)   OAC rule 3745-31-05(A)	40 CFR Part 60, Subpart Dc
	OAC rule 3745-17-10(B)	
	OAC rule 3745-17-07(A)	

GM P

PTI A

Emissions Unit ID: B004

**Issued: To be entered upon final issuance**

Applicable Emissions Limitations/Control Measures	Recordkeeping (see A.I.2.c)
control requirements (see A.2.a)	
7.78 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based upon natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/ OAC rule 3745-31-(10-20), OAC rule 3745-17-10(B), OAC rule 3745-17-07(A) and 40 CFR Part 60, Subpart Dc. (See II.1)	
1.1 lb NO <sub>x</sub> /hr, 4.82 tons NO <sub>x</sub> /yr	
1.85 lbs carbon monoxide (CO)/hr, 8.1 tons CO/yr	
0.44 lb particulate emissions (PE)/hr, 1.9 tons PE/yr	
0.020 lb PE/mmBtu of actual heat input	
visible PE's shall not exceed 20% opacity as a six-minute average, except as provided by rule	

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. boiler equipped with low NO<sub>x</sub> burners with flue gas recirculation and designed to emit NO<sub>x</sub> at a rate of 50 lbs/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units B003, B004 or B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr), shall not exceed 7.3 tons/yr based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c.** The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.
- 2.d.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The permittee shall burn only natural gas in this emissions unit.
2. The maximum annual natural gas usage for emissions unit B003, B004 or B005 and the exempted emissions units, one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) shall not exceed 311.1 mmCf/yr, combined, based upon a rolling 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	25.93
1-2	51.85
1-3	77.78
1-4	103.71
1-5	129.64

1-6	155.57
1-7	181.50
1-8	207.43
1-9	233.36
1-10	259.29
1-11	285.22
1-12	311.10

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

### III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee maintain monthly records of the following information for emissions unit B003, B004, B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) :
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage, in mmCf; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, in mmCf, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units B003, B004, B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) :
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, in tons, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall

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maintain a record of the type and quantity of fuel burned in this emissions unit.

**Issued: To be entered upon final issuance****IV. Reporting Requirements**

1. The permittee shall submit deviation(excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for NO<sub>x</sub>.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for NO<sub>x</sub>, Method 7 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

2. Compliance Methods Requirements: Compliance with the emission limitations in section A.I of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 7.78 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.3.

- b. Emission Limitation: 1.1 lbs NO<sub>x</sub>/hr, 4.82 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 1.85 lbs CO/hr, 8.1 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate 22 mmBtu/hr and dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.44 lb PE/hr, 1.9 tons PE/yr

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Applicable Compliance Method: The lb PE/hr was determined by multiplying the maximum heat input capacity of the boiler (22 mmBtu/hr) by the allowable emission rate of 0.020 lb PE/mmBtu of actual heat input. Therefore, provided compliance is shown with OAC 3745-17-10(B), compliance will also be shown with the lb/hr allowable.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method: The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly natural gas consumption rate (48,000 cu. ft./hr) by the appropriate emission factor from AP-42, Table 1.4-2 (revised 7/98) [1.9 lbs PE (filtrable)/mmCf. ft.] and dividing by the maximum heat input capacity of the boiler (22 mmBtu/hr). If required, compliance shall be determined in accordance with OAC rule 3745-17-03(B)(9).

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B004- Powerhouse boiler #2		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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Emissions Unit ID: B005

Issued: To be entered upon final issuance

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
B005 - 22 mmBtu/hr natural gas boiler- Powerhouse boiler #3	40 CFR Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)  OAC rule 3745-31-05(A)	40 CFR Part 60, Subpart Dc
	OAC rule 3745-17-10(B)	

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Emissions Unit ID: B005

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Applicable Emissions Limitations/Control Measures	Recordkeeping (see A.I.2.c)
control requirements (see A.2.a)	
7.78 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based upon natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/ OAC rule 3745-31-(10-20), OAC rule 3745-17-10(B), OAC rule 3745-17-07(A) and 40 CFR Part 60, Subpart Dc. (See II.1)	
1.1 lb NO <sub>x</sub> /hr, 4.82 tons NO <sub>x</sub> /yr	
1.85 lbs carbon monoxide (CO)/hr, 8.1 tons CO/yr	
0.44 lb particulate emissions (PE)/hr, 1.9 tons PE/yr	
0.020 lb PE/mmBtu of actual heat input	
visible PE's shall not exceed 20% opacity as a six-minute average, except as provided by rule	

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. boiler equipped with low NO<sub>x</sub> burners with flue gas recirculation and designed to emit NO<sub>x</sub> at a rate of 50 lbs/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units B003, B004 or B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr), shall not exceed 7.3 tons/yr based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c.** The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.
- 2.d.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The permittee shall burn only natural gas in this emissions unit.
2. The maximum annual natural gas usage for emissions unit B003, B004 or B005 and the exempted emissions units, one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) shall not exceed 311.1 mmCf/yr, combined, based upon a rolling 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	25.93
1-2	51.85
1-3	77.78
1-4	103.71
1-5	129.64

1-6	155.57
1-7	181.50
1-8	207.43
1-9	233.36
1-10	259.29
1-11	285.22
1-12	311.10

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

### III. Monitoring and/or Recordkeeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee maintain monthly records of the following information for emissions unit B003, B004, B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) :
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage, in mmCf; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, in mmCf, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units B003, B004, B005 and the following exempt emissions units: one pre-heater (2 mmBtu/hr) and one HVAC unit (1 mmBtu/hr) :
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, in tons, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall

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maintain a record of the type and quantity of fuel burned in this emissions unit.

**Issued: To be entered upon final issuance****IV. Reporting Requirements**

1. The permittee shall submit deviation(excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for NO<sub>x</sub>.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for NO<sub>x</sub>, Method 7 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

2. Compliance Method Requirements: Compliance with the emission limitations in section A.I of the terms and conditions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 7.78 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.3.

- b. Emission Limitation: 1.1 lbs NO<sub>x</sub>/hr, 4.82 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 1.85 lbs CO/hr, 8.1 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate 22 mmBtu/hr and dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.44 lb PE/hr, 1.9 tons PE/yr

Applicable Compliance Method: The lb PE/hr was determined by multiplying the

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maximum heat input capacity of the boiler (22 mmBtu/hr) by the allowable emission rate of 0.020 lb PE/mmBtu of actual heat input. Therefore, provided compliance is shown with OAC 3745-17-10(B), compliance will also be shown with the lb/hr allowable.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.020 lb PE/mmBtu of actual heat input

Applicable Compliance Method: The permittee shall demonstrate compliance with this limitation by multiplying the maximum hourly natural gas consumption rate (48,000 cu. ft./hr) by the appropriate emission factor from AP-42, Table 1.4-2 (revised 7/98) [1.9 lbs PE (filtrable)/mmCf. ft.] and dividing by the maximum heat input capacity of the boiler (22 mmBtu/hr). If required, compliance shall be determined in accordance with OAC rule 3745-17-03(B)(9).

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B005- Powerhouse boiler #3		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements****V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P047 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #1	OAC rule 3745-31-05(D)	36.79 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
	OAC rule 3745-31-05(A)	2.92 lbs VOC/hr, 12.79 tons VOC/yr (see A.I.2.b & A.II.1)

**2. Additional Terms and Conditions**

- 2.a. The permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions units P407, P408, P409 and P410 shall not exceed 36.79 tons/yr, based on a rolling, 12-month restriction of polystyrene bead throughput (see A.II.2).
- 2.b. The 2.92 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limitation.

**II. Operational Restrictions**

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC weight percent of 6.0.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and

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Emissions Unit ID: P407

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P411 shall not exceed 1,839,600 lbs, combined.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the bead throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Bead throughput (lbs)</u>
1	153,300
1-2	306,600
1-3	459,900
1-4	613,200
1-5	766,500
1-6	919,800
1-7	1,073,100
1-8	1,226,400
1-9	1,379,700
1-10	1,533,000
1-11	1,686,300
1-12	1,839,600

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual bead throughput shall be based upon a rolling 12-month summation of bead throughput.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
  - a. the company identification for polystyrene beads processed;
  - b. the VOC content of polystyrene beads, weight percent;
  - c. for the first 12 months of operation under the provisions of this permit, the cumulative monthly bead usage, in pounds; and
  - d. after the first 12 calendar months of operation under the provisions of this permit, the annual bead usage, in pounds, based on a rolling 12-month summation of the monthly bead usage.
2. In addition to the above information, the permittee shall also record the following information

each month for emission units P407, P408, P409, and P410:

- a. the calculated VOC emission rate, in tons per month;
- b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly VOC emission rate, in tons; and
- c. after the first 12 months of operation under the provisions of this permit, the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable monthly, cumulative bead usage; and
  - b. the annual bead usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. the emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the

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results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 36.79 tons VOC per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

- b. Emission Limitation: 2.92 lb VOC/hr, 12.79 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P407 - Polystyrene bead preparation (pre-expander and pentane reduction) - Cell #1		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions****III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P408

**Issued: To be entered upon final issuance****Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P048 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #2	OAC rule 3745-31-05(D)	36.79 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
	OAC rule 3745-31-05(A)	2.92 lbs VOC/hr, 12.79 tons VOC/yr (see A.I.2.a & A.II.1)

**2. Additional Terms and Conditions**

- 2.a. The permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions units P407, P408, P409 and P410 shall not exceed 36.79 tons/yr, based on a rolling, 12-month restriction of polystyrene bead throughput (see A.II.2).
- 2.b. The 2.92 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limitation.

**II. Operational Restrictions**

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC weight percent of 6.0.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and

GM P

PTI A

Emissions Unit ID: P408

**Issued: To be entered upon final issuance**

P411 shall not exceed 1,839,600 lbs, combined.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the bead throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Bead throughput (lbs)</u>
1	153,300
1-2	306,600
1-3	459,900
1-4	613,200
1-5	766,500
1-6	919,800
1-7	1,073,100
1-8	1,226,400
1-9	1,379,700
1-10	1,533,000
1-11	1,686,300
1-12	1,839,600

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual bead throughput shall be based upon a rolling 12-month summation of bead throughput.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
  - b. the company identification for polystyrene beads processed;
  - c. the VOC content of polystyrene beads, weight percent;
  - c. for the first 12 months of operation under the provisions of this permit, the cumulative monthly bead usage, in pounds; and
  - d. after the first 12 calendar months of operation under the provisions of this permit, the annual bead usage, in pounds, based on a rolling 12-month summation of the monthly bead usage.
2. In addition to the above information, the permittee shall also record the following information

each month for emission units P407, P408, P409, and P410:

- a. the calculated VOC emission rate, in tons per month;
- b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly VOC emission rate, in tons; and
- c. after the first 12 months of operation under the provisions of this permit, the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable monthly, cumulative bead usage; and
  - b. the annual bead usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. the emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the

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results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 36.79 tons VOC per rolling 12-month period

Applicable Compliance Method:

Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

- b. Emission Limitation: 2.92 lb VOC/hr, 12.79 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P048 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #2		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P409

**Issued: To be entered upon final issuance****Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P049 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #3	OAC rule 3745-31-05(D)	36.79 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
	OAC rule 3745-31-05(A)	2.92 lbs VOC/hr, 12.79 tons VOC/yr (see A.I.2.a & A.II.1)

**2. Additional Terms and Conditions**

- 2.a. The permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions units P407, P408, P409 and P410 shall not exceed 36.79 tons/yr, based on a rolling, 12-month restriction of polystyrene bead throughput (see A.II.2).
- 2.b. The 2.92 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limitation.

**II. Operational Restrictions**

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC weight percent of 6.0.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and

GM P

PTI A

Emissions Unit ID: P409

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P411 shall not exceed 1,839,600 lbs; combined.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the bead throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Bead throughput (lbs)</u>
1	153,300
1-2	306,600
1-3	459,900
1-4	613,200
1-5	766,500
1-6	919,800
1-7	1,073,100
1-8	1,226,400
1-9	1,379,700
1-10	1,533,000
1-11	1,686,300
1-12	1,839,600

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual bead throughput shall be based upon a rolling 12-month summation of bead throughput.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
  - a. the company identification for polystyrene beads processed;
  - b. the VOC content of polystyrene beads, weight percent;
  - c. for the first 12 months of operation under the provisions of this permit, the cumulative monthly bead usage, in pounds; and
  - d. after the first 12 calendar months of operation under the provisions of this permit, the annual bead usage, in pounds, based on a rolling 12-month summation of the monthly bead usage.
2. In addition to the above information, the permittee shall also record the following information

**GM Powertrain Group, Defiance Plant**

**PTI Application: 02-12264**

**Issued**

**Facility ID: 0320010001**

Emissions Unit ID: P409

each month for emission units P407, P408, P409, and P410:

- a. the calculated VOC emission rate, in tons per month;
- b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly VOC emission rate, in tons; and
- c. after the first 12 months of operation under the provisions of this permit, the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

**Issued: To be entered upon final issuance****IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable monthly, cumulative bead usage; and
  - b. the annual bead usage restrictions and emission limitation per rolling 12-month period.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. the emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

**Issued: To be entered upon final issuance**

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 36.79 tons VOC per rolling 12-month period

Applicable Compliance Method:

Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

- b. Emission Limitation: 2.92 lb VOC/hr, 12.79 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P409 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #3		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

Issued: To be entered upon final issuance

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P410 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #4	OAC rule 3745-31-05(D)	36.79 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
	OAC rule 3745-31-05(A)	2.92 lbs VOC/hr, 12.79 tons VOC/yr (see A.I.2.a & A.II.1)

**2. Additional Terms and Conditions**

- 2.a The permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions units P407, P408, P409 and P410 shall not exceed 36.79 tons/yr, based on a rolling, 12-month restriction of polystyrene bead throughput (see A.II.2).
- 2.b The 2.92 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limitation.

**II. Operational Restrictions**

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC weight percent of 6.0.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and

GM P

PTI A

Emissions Unit ID: P410

**Issued: To be entered upon final issuance**

P411 shall not exceed 1,839,600 lbs; combined.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the bead throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Bead throughput (lbs)</u>
1	153,300
1-2	306,600
1-3	459,900
1-4	613,200
1-5	766,500
1-6	919,800
1-7	1,073,100
1-8	1,226,400
1-9	1,379,700
1-10	1,533,000
1-11	1,686,300
1-12	1,839,600

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual bead throughput shall be based upon a rolling 12-month summation of bead throughput.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
  - a. the company identification for polystyrene beads processed;
  - b. the VOC content of polystyrene beads, weight percent;
  - c. for the first 12 months of operation under the provisions of this permit, the cumulative monthly bead usage, in pounds; and
  - d. after the first 12 calendar months of operation under the provisions of this permit, the annual bead usage, in pounds, based on a rolling 12-month summation of the monthly bead usage.
2. In addition to the above information, the permittee shall also record the following information

each month for emission units P407, P408, P409, and P410:

- a. the calculated VOC emission rate, in tons per month;
- b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly VOC emission rate, in tons; and
- c. after the first 12 months of operation under the provisions of this permit, the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
  - a. for the first 12 calendar months of operation, all exceedance of the allowable monthly, cumulative bead usage; and
  - b. the annual bead usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. the emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the

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test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 36.79 tons VOC per rolling 12-month period

Applicable Compliance Method:

Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

- b. Emission Limitation: 2.92 lb VOC/hr, 12.79 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P410 - expandable polystyrene (EPS) bead preparation (pre-expander and pentane reduction) - Cell #4		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P411

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P411 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#1	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20) OAC rule 3745-31-05(D)
	OAC rule 3745-17-11(B)
	OAC rule 3745-17-07(A)
	OAC rule 3745-31-05(A)

GMP

PTIA

Emissions Unit ID: P411

**Issued: To be entered upon final issuance**

Applicable Emissions Limitations/Control Measures	tons VOC/yr
control requirements (see A.I.2.a)	1.2 lbs particulate emissions (PE)/hr, 5.26 tons PE/yr
Duct Burner emissions:	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
13.61 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	20% opacity as a six-minute average, except as provided by rule
Regenerative Catalytic Oxidizer (RCO) emissions:	
6.93 tons NO <sub>x</sub> per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/OAC rule 3745-31-(10-20) and OAC rule 3745-17-07(A).	
Use of baghouse	
2.27 lbs NO <sub>x</sub> /hr, 9.94 tons NO <sub>x</sub> /yr	
2.1 lbs carbon monoxide (CO)/hr, 9.2 tons CO/yr	
0.41 lbs volatile organic compounds (VOC)/hr, 1.8	

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions.
- i. use of duct burner equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 80 lb/mmCf of natural gas burned.
  - ii. use of RCO equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 110 lb/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from the duct burners on emissions units P411, P412, P413 and P414 shall not exceed 13.61 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1). Combined annual NO<sub>x</sub> emissions from the RCO on emissions units P411, P412, P413 and P414 shall not exceed 6.93 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The maximum annual natural gas usage on the duct burners for emissions units P411, P412, P413 and P414 shall not exceed 340.2 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table for the duct burners for emissions units P411, P412, P413 and P414:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	28
1-2	57
1-3	85
1-4	114

1-5	142
1-6	170
1-7	199
1-8	227
1-9	256
1-10	284
1-11	312
1-12	340.2

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The maximum annual natural gas usage on the RCO for emissions units P411, P412, P413 and P414 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels, for the RCO's for emissions units P411, P412, P413 and P414, specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated

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the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

4. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.

\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all duct burners, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the duct burners; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the duct burners, based on a rolling, 12-month summation of the monthly natural gas usage.
2. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all RCO's, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the RCO's; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the RCO's, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:

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- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the duct burners;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the duct burners, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the duct burners, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:
- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the RCO's;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the RCO's, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the RCO's, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
5. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
6. The permittee shall collect and record the following information each day:
- a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

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- c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
7. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the duct burners; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for all the duct burners.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the RCO's; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for the RCO's.
3. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during the which the average temperature of the exhaust gasses immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
4. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions

unit.

- b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
- a. Emission Limitation: 13.61 tons NO<sub>x</sub> per rolling 12-month period from the duct burner for emissions units P411, P412, P413 and P414, combined  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.
  - b. Emission Limitation: 6.93 tons NO<sub>x</sub> per rolling 12-month period from the RCO for emissions units P411, P412, P413 and P414, combined  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation

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shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- c. Emission Limitation: 2.27 lbs NO<sub>x</sub>/hr, 9.94 tons NO<sub>x</sub>/yr

Applicable Compliance Method: The lb/hr NO<sub>x</sub> emission was determined by adding the lb/hr emissions from the RCO and duct burner. Compliance with the lb/hr limitation shall be determined by multiplying the manufacturer's guaranteed emissions factors for the duct burner [80 lbs NO<sub>x</sub>/mmCf] and the RCO [110 lb NO<sub>x</sub>/mmCf] by the maximum combustion capacity of each relevant piece of equipment 16 mmBtu/hr for the duct burner and 9 mmBtu/hr for the RCO and dividing by the heating value of natural gas, then adding the two calculated pounds per hour.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 2.1 lb CO/hr, 9.2 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate for the RCO (9 mmBtu/hr) and the duct burner (16 mmBtu/hr) then dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.41 lb VOC/hr, 1.8 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 1.2 lbs PE/hr, 5.26 tons PE/yr

**GM Powertrain Group, Defiance Plant**

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**Facility ID: 0320010001**

Emissions Unit ID: P411

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- g. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

## **VI. Miscellaneous Requirements**

NONE

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PTI A

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**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P411 - Castline with duct burner and regenerative catalytic oxidizer (RCO) [aluminum pouring, cooling, cleaning, & sand shakeout] - Cell#1		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

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NONE

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PTI A

Emissions Unit ID: P412

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P412 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#2	40 CFR Part 52.21 OAC rule 3745-31-(10-20) OAC rule 3745-31-05(D)
	OAC rule 3745-17-11(B)
	OAC rule 3745-17-07(A)
	OAC rule 3745-31-05(A)(3)

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Applicable Emissions Limitations/Control Measures	tons VOC/yr
control requirements (see A.I.2.a)	1.2 lbs particulate emissions (PE)/hr, 5.26 tons PE/yr
Duct Burner emissions:	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
13.61 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	20% opacity as a six-minute average, except as provided by rule
Regenerative Catalytic Oxidizer (RCO) emissions:	
6.93 tons NO <sub>x</sub> per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/OAC rule 3745-31-(10-20) and OAC rule 3745-17-07(A).	
Use of baghouse	
2.27 lbs NO <sub>x</sub> /hr, 9.94 tons NO <sub>x</sub> /yr	
2.1 lbs carbon monoxide (CO)/hr, 9.2 tons CO/yr	
0.41 lbs volatile organic compounds (VOC)/hr, 1.8	

## 2. Additional Terms and Conditions

- 2.a** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions.
- i. use of duct burner equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 80 lb/mmCf of natural gas burned.
  - ii. use of RCO equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 110 lb/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from the duct burners on emissions units P411, P412, P413 and P414 shall not exceed 13.61 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1). Combined annual NO<sub>x</sub> emissions from the RCO on emissions units P411, P412, P413 and P414 shall not exceed 6.93 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c.** All PE is assumed to be in the form of PM<sub>10</sub>.

## II. Operational Restrictions

1. The maximum annual natural gas usage on the duct burners for emissions units P411, P412, P413 and P414 shall not exceed 340.2 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table for the duct burners for emissions units P411, P412, P413 and P414:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	28
1-2	57
1-3	85
1-4	114
1-5	142
1-6	170
1-7	199

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1-8	227
1-9	256
1-10	284
1-11	312
1-12	340.2

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The maximum annual natural gas usage on the RCO for emissions units P411, P412, P413 and P414 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels, for the RCO's for emissions units P411, P412, P413 and P414, specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated

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the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

4. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.

\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all duct burners, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the duct burners; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the duct burners, based on a rolling, 12-month summation of the monthly natural gas usage.
2. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all RCO's, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the RCO's; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the RCO's, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:

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- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the duct burners;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the duct burners, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the duct burners, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:
- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the RCO's;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the RCO's, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the RCO's, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
5. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
6. The permittee shall collect and record the following information each day:
- a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.
  - c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

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7. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the duct burners; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for all the duct burners.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation; all exceedances of the allowable cumulative natural gas usage, for all the RCO's; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for the RCO's.
3. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during the which the average temperature of the exhaust gasses immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
4. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:

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- a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A, for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
- a. Emission Limitation: 13.61 tons NO<sub>x</sub> per rolling 12-month period from the duct burner for emissions units P411, P412, P413 and P414, combined  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.
  - b. Emission Limitation: 6.93 tons NO<sub>x</sub> per rolling 12-month period from the RCO for emissions units P411, P412, P413 and P414, combined

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Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- c. Emission Limitation: 2.27 lbs NO<sub>x</sub>/hr, 9.94 tons NO<sub>x</sub>/yr

Applicable Compliance Method: The lb/hr NO<sub>x</sub> emission was determined by adding the lb/hr emissions from the RCO and duct burner. Compliance with the lb/hr limitation shall be determined by multiplying the manufacturer's guaranteed emissions factors for the duct burner [80 lbs NO<sub>x</sub>/mmCf] and the RCO [110 lb NO<sub>x</sub>/mmCf] by the maximum combustion capacity of each relevant piece of equipment 16 mmBtu/hr for the duct burner and 9 mmBtu/hr for the RCO and dividing by the heating value of natural gas, then adding the two calculated pounds per hour.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 2.1 lb CO/hr, 9.2 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate for the RCO (9 mmBtu/hr) and the duct burner (16 mmBtu/hr) then dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.41 lb VOC/hr, 1.8 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 1.2 lbs PE/hr, 5.26 tons PE/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined

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through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- g. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P412

**Issued: To be entered upon final issuance****B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P412 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#2		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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**GM P**

**PTI A**

**Issued: To be entered upon final issuance**

Emissions Unit ID: P412

GM P  
PTI A

Emissions Unit ID: P413

Issued: To be entered upon final issuance

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P413 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#3	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20) OAC rule 3745-31-05(D)
	OAC rule 3745-17-11(B)
	OAC rule 3745-17-07(A)
	OAC rule 3745-31-05(A)

Issued

Emissions Unit ID: P413

Applicable Emissions Limitations/Control Measures	(PE)/hr, 5.26 tons PE/yr
control requirements (see A.I.2.a)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
Duct Burner emissions:  13.61 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	20% opacity as a six-minute average, except as provided by rule
Regenerative Catalytic Oxidizer (RCO) emissions:  6.93 tons NO <sub>x</sub> per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 CFR Part 52.21/OAC rule 3745-31-(10-20) and OAC rule 3745-17-07(A).	
Use of baghouse	
2.27 lbs NO <sub>x</sub> /hr, 9.94 tons NO <sub>x</sub> /yr	
2.1 lbs carbon monoxide (CO)/hr, 9.2 tons CO/yr	
0.41 lbs volatile organic compounds (VOC)/hr, 1.8 tons VOC/yr	
1.2 lbs particulate emissions	

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions.
- i. use of duct burner equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 80 lb/mmCf of natural gas burned.
  - ii. use of RCO equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 110 lb/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from the duct burners on emissions units P411, P412, P413 and P414 shall not exceed 13.61 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1). Combined annual NO<sub>x</sub> emissions from the RCO on emissions units P411, P412, P413 and P414 shall not exceed 6.93 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The maximum annual natural gas usage on the duct burners for emissions units P411, P412, P413 and P414 shall not exceed 340.2 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table for the duct burners for emissions units P411, P412, P413 and P414:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	28
1-2	57
1-3	85
1-4	114

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**Issued: To be entered upon final issuance**

1-5	142
1-6	170
1-7	199
1-8	227
1-9	256
1-10	284
1-11	312
1-12	340.2

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The maximum annual natural gas usage on the RCO for emissions units P411, P412, P413 and P414 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels, for the RCO's for emissions units P411, P412, P413 and P414, specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

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Emissions Unit ID: P413

3. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.
4. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.

\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all duct burners, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the duct burners; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the duct burners, based on a rolling, 12-month summation of the monthly natural gas usage.
2. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all RCO's, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the RCO's; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the RCO's, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:

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- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the duct burners;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the duct burners, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the duct burners, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:
- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the RCO's;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the RCO's, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the RCO's, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
5. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
6. The permittee shall collect and record the following information each day:
- a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

- c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
7. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the duct burners; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for all the duct burners.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the RCO's; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for the RCO's.
3. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during the which the average temperature of the exhaust gasses immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
4. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:

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- a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
- a. Emission Limitation: 13.61 tons NO<sub>x</sub> per rolling 12-month period from the duct burner for emissions units P411, P412, P413 and P414, combined
- Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

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- b. Emission Limitation: 6.93 tons NO<sub>x</sub> per rolling 12-month period from the RCO for emissions units P411, P412, P413 and P414, combined

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- c. Emission Limitation: 2.27 lbs NO<sub>x</sub>/hr, 9.94 tons NO<sub>x</sub>/yr

Applicable Compliance Method: The lb/hr NO<sub>x</sub> emission was determined by adding the lb/hr emissions from the RCO and duct burner. Compliance with the lb/hr limitation shall be determined by multiplying the manufacturer's guaranteed emissions factors for the duct burner [80 lbs NO<sub>x</sub>/mmCf] and the RCO [110 lb NO<sub>x</sub>/mmCf] by the maximum combustion capacity of each relevant piece of equipment 16 mmBtu/hr for the duct burner and 9 mmBtu/hr for the RCO and dividing by the heating value of natural gas, then adding the two calculated pounds per hour.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 2.1 lb CO/hr, 9.2 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate for the RCO (9 mmBtu/hr) and the duct burner (16 mmBtu/hr) then dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.41 lb VOC/hr, 1.8 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

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- f. Emission Limitation: 1.2 lbs PE/hr, 5.26 tons PE/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- g. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

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Emissions Unit ID: P413

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P413 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#3		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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**GM Powertrain Group, Defiance Plant**

**PTI Application: 02 13364**

**Issued**

**Facility ID: 0320010001**

Emissions Unit ID: P413

GM P  
PTI A

Emissions Unit ID: P414

Issued: To be entered upon final issuance

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P414 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#4	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20) OAC rule 3745-31-05(D)
	OAC rule 3745-17-11(B)
	OAC rule 3745-17-07(A)
	OAC rule 3745-31-05(A)(3)

**GM P**

**PTI A**

Emissions Unit ID: P414

**Issued: To be entered upon final issuance**

<p>Applicable Emissions  <u>Limitations/Control</u>  <u>Measures</u></p>	<p>tons VOC/yr                   1.2 lbs particulate emissions (PE)/hr,                  5.26 tons PE/yr</p>
<p>control requirements (see                  A.I.2.a)</p>	<p>The emission limitation specified by                  this rule is less stringent than the                  emission limitation established                  pursuant to OAC rule                  3745-31-05(A)(3).</p>
<p>Duct Burner emissions:                   13.61 tons nitrogen oxide                  (NO<sub>x</sub>) per rolling 12-month                  period based on natural gas                  usage restrictions (see                  A.I.2.b)</p>	<p>20% opacity as a six-minute average,                  except as provided by rule</p>
<p>Regenerative Catalytic                  Oxidizer (RCO) emissions:                   6.93 tons NO<sub>x</sub> per rolling                  12-month period based on                  natural gas usage restrictions                  (see A.I.2.b)</p>	
<p>The requirements of this rule                  also include compliance with                  the requirements of 40 <u>CFR</u>                  Part 52.21/OAC rule                  3745-31-(10-20) and OAC                  rule 3745-17-07(A).</p>	
<p>Use of baghouse                   2.27 lbs NO<sub>x</sub>/hr, 9.94 tons                  NO<sub>x</sub>/yr</p>	
<p>2.1 lbs carbon monoxide                  (CO)/hr, 9.2 tons CO/yr</p>	
<p>0.41 lbs volatile organic                  compounds (VOC)/hr, 1.8</p>	

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions.
- i. use of duct burner equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 80 lb/mmCf of natural gas burned.
  - ii. use of RCO equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 110 lb/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from the duct burners on emissions units P411, P412, P413 and P414 shall not exceed 13.61 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1). Combined annual NO<sub>x</sub> emissions from the RCO on emissions units P411, P412, P413 and P414 shall not exceed 6.93 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.2).
- 2.c.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The maximum annual natural gas usage on the duct burners for emissions units P411, P412, P413 and P414 shall not exceed 340.2 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table for the duct burners for emissions units P411, P412, P413 and P414:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	28
1-2	57
1-3	85
1-4	114

**GM Powertrain Group, Defiance Plant**

PTI Application: 03-13364

**Issued****Facility ID: 0320010001**

Emissions Unit ID: P414

1-5	142
1-6	170
1-7	199
1-8	227
1-9	256
1-10	284
1-11	312
1-12	340.2

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The maximum annual natural gas usage on the RCO for emissions units P411, P412, P413 and P414 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels, for the RCO's for emissions units P411, P412, P413 and P414, specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

- The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated

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the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

4. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.

\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all duct burners, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the duct burners; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the duct burners, based on a rolling, 12-month summation of the monthly natural gas usage.
2. The permittee shall maintain monthly records of the following information for emissions units P411, P412, P413 and P414, combined:
  - a. the quantity of natural gas combusted in all RCO's, in mmCf;
  - b. for the first 12 months of operations under the provisions of this permit, the cumulative monthly natural gas usage in the RCO's; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage in the RCO's, based on a rolling, 12-month summation of the monthly natural gas usage.
3. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:

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- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the duct burners;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the duct burners, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the duct burners, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
4. In addition to the above information, the permittee shall also record the following information each month for emissions units P411, P412, P413 and P414, combined:
- a. the calculated NO<sub>x</sub> emission rate, in tons per month, for all the RCO's;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, from all the RCO's, in tons; and
  - c. after the first 12 months of operation, under the provisions of this permit, the annual NO<sub>x</sub> emission rate, from all the RCO's, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
5. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
6. The permittee shall collect and record the following information each day:
- a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

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- c. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
7. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the duct burners; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for all the duct burners.
2. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage, for all the RCO's; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period, for the RCO's.
3. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during the which the average temperature of the exhaust gasses immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified above.
4. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions

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unit.

- b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
- a. Emission Limitation: 13.61 tons NO<sub>x</sub> per rolling 12-month period from the duct burner for emissions units P411, P412, P413 and P414, combined  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.
  - b. Emission Limitation: 6.93 tons NO<sub>x</sub> per rolling 12-month period from the RCO for

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emissions units P411, P412, P413 and P414, combined

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- c. Emission Limitation: 2.27 lbs NO<sub>x</sub>/hr, 9.94 tons NO<sub>x</sub>/yr

Applicable Compliance Method: The lb/hr NO<sub>x</sub> emission was determined by adding the lb/hr emissions from the RCO and duct burner. Compliance with the lb/hr limitation shall be determined by multiplying the manufacturer's guaranteed emissions factors for the duct burner [80 lbs NO<sub>x</sub>/mmCf] and the RCO [110 lb NO<sub>x</sub>/mmCf] by the maximum combustion capacity of each relevant piece of equipment 16 mmBtu/hr for the duct burner and 9 mmBtu/hr for the RCO and dividing by the heating value of natural gas, then adding the two calculated pounds per hour.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 2.1 lb CO/hr, 9.2 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum combustion rate for the RCO (9 mmBtu/hr) and the duct burner (16 mmBtu/hr) then dividing by the heating value of the gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 0.41 lb VOC/hr, 1.8 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 1.2 lbs PE/hr, 5.26 tons PE/yr

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Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- g. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

## **VI. Miscellaneous Requirements**

NONE

GM P

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Emissions Unit ID: P414

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P412 - Castline (aluminum pouring, cooling, cleaning, & sand shakeout) with RCO and duct burner - Cell#4		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P415 - Sand Silo (pneumatic conveyance/storage system) - Cell #1	OAC rule 3745-31-05(D)	0.008 tons particulate emissions (PE) per rolling 12-month period based upon sand throughput restrictions (see A.I.2.a)
	OAC rule 3745-31-05(A)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).  0.02 lb PE/hr, 0.008 tons PE/year
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(A)	visible PE shall not exceed 20% opacity as a six-minute average, except as provided by rule

**2. Additional Terms and Conditions**

- 2.a. Combined annual PE emissions from emissions units P415, P416, P417 and P418 shall not exceed 0.008 tons/yr, based upon a rolling, 12-month restriction of sand throughput (see A.II.1).
- 2.b. All PE is assumed to be in the form of PM<sub>10</sub>.

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Emissions Unit ID: P415

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Emissions Unit ID: P415

**Issued: To be entered upon final issuance****II. Operational Restrictions**

1. The maximum annual sand throughput for emissions units P415, P416, P417 and P418 shall not exceed 18,922 tons/yr, combined, based on a rolling 12-month summation of sand throughput.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the sand throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Sand Throughput (tons)</u>
1	1577
1-2	3154
1-3	4731
1-4	6308
1-5	7885
1-6	9462
1-7	11,039
1-8	12,616
1-9	14,193
1-10	15,770
1-11	17,347
1-12	18,922

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual sand throughput shall be based upon a rolling 12-month summation of monthly sand throughput.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P415, P416, P417 and P418, combined:
  - a. the quantity of sand throughput, in tons;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly sand throughput; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual sand throughput, based on a rolling, 12-month summation of the monthly sand throughput.
2. In addition to the above information, the permittee shall also record the following information

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Emissions Unit ID: P415

each month for emissions units P415, P416, P417 and P418, combined:

- a. the calculated PE emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly PE emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual PE emission rate, in tons, based on a rolling, 12-month summation of the monthly PE emissions.
3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions for the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative sand throughput; and
  - b. the annual sand throughput restriction and emission limitation per rolling 12-month period.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous six-month period.

**V. Testing Requirements**

**Issued: To be entered upon final issuance**

1. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 0.008 tons PE per rolling 12-month period for emissions units P415, P416, P417 and P418, combined  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.2.
  - b. Emission Limitation: 0.02 lbs PE/hr, 0.008 tons PE/yr  
  
Applicable Compliance Method: The hourly emission limitation represents the emission unit's potential to emit based on a maximum outlet concentration 0.005 gr/dscf and a maximum volumetric air flow rate of 500 cfm.  
  
Compliance with the tons/year PE limitation shall be demonstrated through compliance with the rolling 12-month emission limitation.
  - c. Emission Limitation: 20 % opacity as a six-minute average, except as provided by rule  
  
Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P415 - Sand Silo - Cell #1		

**2. Additional Terms and Conditions**

**2.a** NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P416 - Sand Silo (pneumatic material conveyance/storage system) - Cell #2	OAC rule 3745-31-05(D)	0.008 tons particulate emissions (PE) per rolling 12-month period based upon sand delivery restrictions (see A.I.2.a)
	OAC rule 3745-31-05(A)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).  0.02 lb PE/hr, 0.008 tons PE/year
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(A)	visible PE's shall not exceed 20% opacity as a six-minute average, except as provided by rule

**2. Additional Terms and Conditions**

- 2.a. Combined annual PE emissions from emissions units P415, P416, P417 and P418 shall not exceed 0.008 tons/yr, based upon a rolling, 12-month restriction of sand delivery (see A.II.1).
- 2.b. All PE is assumed to be in the form of PM<sub>10</sub>.

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**Issued: To be entered upon final issuance**

Emissions Unit ID: P416

GM P

PTI A

Emissions Unit ID: P416

**Issued: To be entered upon final issuance****II. Operational Restrictions**

1. The maximum annual sand delivered for emissions units P415, P416, P417 and P418 shall not exceed 18,922 tons/yr, combined, based on a rolling 12-month summation of sand delivered..

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the sand throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Sand Throughput (tons)</u>
1	1577
1-2	3154
1-3	4731
1-4	6308
1-5	7885
1-6	9462
1-7	11,039
1-8	12,616
1-9	14,193
1-10	15,770
1-11	17,347
1-12	18,922

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual sand throughput shall be based upon a rolling 12-month summation.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P415, P416, P417 and P418, combined:
  - a. the quantity of sand delivered, in tons;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly sand delivered; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual sand delivered, based on a rolling, 12-month summation of the monthly sand delivered.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the

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weather conditions allow, for any visible particulate emissions for the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall note the following in the operations log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative sand delivery rate; and
  - b. the annual sand delivery restriction and emission limitation per rolling 12-month period.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous six-month period.

**V. Testing Requirements**

1. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 0.008 tons PE per rolling 12-month period for emissions units P415, P416, P417 and P418, combined

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Emissions Unit ID: P416

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.1.

- b. Emission Limitation: 0.02 lbs PE/hr, 0.008 tons/yr

Applicable Compliance Method: The hourly emission limitation was developed by using the duct collection device emission standard of 0.005 gr/dscf and a maximum volumetric air flow rate of 500 cfm.

Compliance with the tons/year PE limitation shall be demonstrated through compliance with the rolling 12-month emission limitation.

- c. Emission Limitation: 20 % opacity as a six-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P416 - Sand Silo - Cell #2		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P417 - Sand Silo (pneumatic material conveyance/storage system) - Cell #3	OAC rule 3745-31-05(D)	0.008 tons particulate emissions (PE) per rolling 12-month period based upon sand delivery restrictions (see A.I.2.a)
	OAC rule 3745-31-05(A)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).  0.02 lb PE/hr, 0.008 tons PE/year
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(A)	visible PE's shall not exceed 20% opacity as a six-minute average, except as provided by rule

**2. Additional Terms and Conditions**

- 2.a. Combined annual PE emissions from emissions units P415, P416, P417 and P418 shall not exceed 0.008 tons/yr, based upon a rolling, 12-month restriction of sand delivery (see A.II.1).
- 2.b. All PE is assumed to be in the form of PM<sub>10</sub>.

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**GM Powertrain Group, Defiance Plant**

**PTI Application: 02 13364**

**Issued**

**Facility ID: 0320010001**

Emissions Unit ID: P417

GMP

PTI A

Emissions Unit ID: P417

**Issued: To be entered upon final issuance****II. Operational Restrictions**

1. The maximum annual sand delivered for emissions units P415, P416, P417 and P418 shall not exceed 18,922 tons/yr, combined, based on a rolling 12-month summation of sand delivered..

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the sand throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Sand Throughput (tons)</u>
1	1577
1-2	3154
1-3	4731
1-4	6308
1-5	7885
1-6	9462
1-7	11,039
1-8	12,616
1-9	14,193
1-10	15,770
1-11	17,347
1-12	18,922

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual sand throughput shall be based upon a rolling 12-month summation.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P415, P416, P417 and P418, combined:
  - a. the quantity of sand delivered, in tons;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly sand delivered; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual sand delivered, based on a rolling, 12-month summation of the monthly sand delivered.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the

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weather conditions allow, for any visible particulate emissions for the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall note the following in the operations log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative sand delivery rate; and
  - b. the annual sand delivery restriction and emission limitation per rolling 12-month period.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous six-month period.

**V. Testing Requirements**

1. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 0.008 tons PE per rolling 12-month period for emissions units P415, P416, P417 and P418, combined

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PTI A

Emissions Unit ID: P417

**Issued: To be entered upon final issuance**

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.1.

- b. Emission Limitation: 0.02 lbs PE/hr, 0.008 tons PE/yr

Applicable Compliance Method: The hourly emission limitation was developed by using the duct collection device emission standard of 0.005 gr/dscf and a maximum volumetric air flow rate of 500 cfm.

Compliance with the tons/year PE limitation shall be demonstrated through compliance with the rolling 12-month emission limitation.

- c. Emission Limitation: 20 % opacity as a six-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P417 - Sand Silo - Cell #3		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P418 - Sand Silo (pneumatic material conveyance/storage system) - Cell #4	OAC rule 3745-31-05(D)	0.008 tons particulate emissions (PE) per rolling 12-month period based upon sand delivery restrictions (see A.I.2.a)
	OAC rule 3745-31-05(A)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).  0.02 lb PE/hr, 0.008 tons PE/year
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(A)	visible PE's shall not exceed 20% opacity as a six-minute average, except as provided by rule

**2. Additional Terms and Conditions**

- 2.a. Combined annual PE emissions from emissions units P415, P416, P417 and P418 shall not exceed 0.008 tons/yr, based upon a rolling, 12-month restriction of sand delivery (see A.II.1).
- 2.b. All PE is assumed to be in the form of PM<sub>10</sub>.

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**Issued: To be entered upon final issuance****II. Operational Restrictions**

1. The maximum annual sand delivered for emissions units P415, P416, P417 and P418 shall not exceed 18,922 tons/yr, combined, based on a rolling 12-month summation of sand delivered..

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the sand throughput levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative Sand Throughput (tons)</u>
1	1577
1-2	3154
1-3	4731
1-4	6308
1-5	7885
1-6	9462
1-7	11,039
1-8	12,616
1-9	14,193
1-10	15,770
1-11	17,347
1-12	18,922

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual sand throughput shall be based upon a rolling 12-month summation.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P415, P416, P417 and P418, combined:
  - a. the quantity of sand delivered, in tons;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly sand delivered; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual sand delivered, based on a rolling, 12-month summation of the monthly sand delivered.

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2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions for the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall note the following in the operations log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to eliminate the visible emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative sand delivery rate; and
  - b. the annual sand delivery restriction and emission limitation per rolling 12-month period.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous six-month period.

**V. Testing Requirements**

1. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 0.008 tons PE per rolling 12-month period for emissions units P415, P416, P417 and P418, combined

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.1.

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- b. Emission Limitation: 0.02 lbs PE/hr, 0.008 tons PE/yr

Applicable Compliance Method: The hourly emission limitation was developed by using the duct collection device emission standard of 0.005 gr/dscf and a maximum volumetric air flow rate of 500 cfm.

Compliance with the tons/year PE limitation shall be demonstrated through compliance with the rolling 12-month emission limitation.

- c. Emission Limitation: 20 % opacity as a six-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P418 - Sand Silo - Cell #4		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P419

Issued: To be entered upon final issuance

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P419 - Sand Reclaim Furnace - Cell #1	40 <u>CFR</u> Part 52.21
	OAC rule 3745-31-(10-20)
	OAC rule 3745-31-05(D)
	OAC rule 3745-31-05(A)
	OAC rule 3745-17-11(B)
	OAC rule 3745-17-07(A)

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Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
A.2.a)

stringent than the emission limitation  
established pursuant to OAC rule  
3745-31-05(A)(3).

Visible PE shall not exceed 20%  
opacity as a six minute average,  
except as provided by rule

6.3 tons nitrogen oxides  
(NOx)/yr (combustion  
emissions) per rolling  
12-month period based on  
natural gas usage restrictions  
(see A.I.2.b)

The requirements of this rule  
also include compliance with  
the requirements of 40 CFR  
Part 52.21/OAC rule  
3745-31-(10-20) OAC rule  
3745-17-07(A).

Use of baghouse and VOC  
destruction efficiency (see  
A.II.1)

0.6 lbs NOx/hr, 2.63 tons  
NOx/yr

0.5 lbs carbon monoxide  
(CO)/hr, 2.19 tons CO/yr

0.13 lb volatile organic  
compounds (VOC)/hr, 0.57  
ton VOC/yr (process  
emissions) (See A.I.2.c)

1.08 lbs particulate emissions  
(PE)/hr, 4.73 tons PE/yr  
(process emissions)(See  
A.I.2.d)

The emission limitation  
specified by this rule is less

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- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. furnace equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 100 lbs/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P419, P420, P421, and P422 shall not exceed 6.3 tons/yr based upon a rolling, 12-month summation of natural gas usage. (see A.II.4)
- 2.c.** The 0.13 lbs VOC/hr and 1.08 lbs PE/hr emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.d.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The permittee shall operate the sand reclaim furnace at a temperature to ensure a destruction efficiency of 98.5%
2. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.  
  
\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.
3. The maximum annual natural gas usage for emissions units P419, P420, P421, and P422 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

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<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

### **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the sand reclaim furnace when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
2. The permittee shall collect and record the following information for each day:
  - a. All 3-hour blocks of time during which the average combustion temperature within the sand reclaim furnace, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop

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across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

4. The permittee shall maintain monthly records of the following information for emissions units P419, P420, P421 and P422, combined:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.
  
5. In addition to the above information, the permittee shall also record the following information each month for emissions units P419, P420, P421 and P422, combined:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the sand reclaim furnace does not comply with the temperature limitation specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and

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- b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c)

above.

2. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 6.3 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.5.

- b. Emission Limitation: 0.6 lbs NO<sub>x</sub>/hr, 2.63 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [100 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas. The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.5 lb CO/hr, 2.19 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 298) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.13 lb VOC/hr, 0.57 ton VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 1.08 lbs PE/hr, 4.73 tons PE/yr

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Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

## **VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P419 - Sand Reclaim Furnace - Cell #1		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

Operations, Property, and/or Equipment	<u>Applicable Rules/Requirements</u>	
P420 - Sand Reclaim Furnace - Cell #2	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)	OAC rule 3745-17-11(B)
	OAC rule 3745-31-05(D)	OAC rule 3745-17-07(A)
	OAC rule 3745-31-05(A)(3)	

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Applicable Emissions Limitations/Control Measures	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
control requirements (see A.2.a)	Visible PE shall not exceed 20% opacity as a six minute average, except as provided by rule
6.3 tons nitrogen oxides (NOx)/yr (combustion emissions) per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/OAC rule 3745-31-(10-20) OAC rule 3745-17-07(A).	
Use of baghouse and VOC destruction efficiency (see A.III.1)	
0.6 lbs NOx/hr, 2.63 tons NOx/yr	
0.5 lbs carbon monoxide (CO)/hr, 2.19 tons CO/yr	
0.13 lb volatile organic compounds (VOC)/hr, 0.57 ton VOC/yr (process emissions) (See A.I.2.c)	
1.08 lbs particulate emissions (PE)/hr, 4.73 tons PE/yr (process emissions)(See A.I.2.c)	

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. furnace equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 100 lbs/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P419, P420, P421, and P422 shall not exceed 6.3 tons/yr based upon a rolling, 12-month summation of natural gas usage (see A.II.4).
- 2.c.** The 0.13 lbs VOC/hr and 1.08 lbs PE/hr emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.d.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The permittee shall operate the sand reclaim furnace at a temperature to ensure a destruction efficiency of 98.5%
2. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.  
  
\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.
3. The maximum annual natural gas usage for emissions units P419, P420, P421, and P422 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

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<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain continuous temperature monitor and recorder which measure and records the temperature within the sand reclaim furnace, when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
2. The permittee shall collect and record the following information each day:
  - a. All 3-hour blocks of time which the average temperature within the sand reclaim furnace, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

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4. The permittee shall maintain monthly records of the following information for emissions units P419, P420, P421 and P422, combined:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.
  
5. In addition to the above information, the permittee shall also record the following information each month for emissions units P419, P420, P421 and P422, combined:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the sand reclaim furnace does not comply with the temperature limitation specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month

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period.

## V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 6.3 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.5.

- b. Emission Limitation: 0.6 lbs NO<sub>x</sub>/hr, 2.63 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [100 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas. The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.5 lb CO/hr, 2.19 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 298) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.13 lb VOC/hr, 0.57 ton VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 1.08 lbs PE/hr, 4.73 tons PE/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

**GM Powertrain Group, Defiance Plant****PTI Application: 03-13364****Issued****Facility ID: 0320010001**

Emissions Unit ID: P420

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P420

Issued: To be entered upon final issuance

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P420 - Sand Reclaim Furnace - Cell #2		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P421

Issued: To be entered upon final issuance

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P421 - Sand Reclaim Furnace - Cell #3	40 CFR Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)	OAC rule 3745-17-11(B)
	OAC rule 3745-31-05(A)	OAC rule 3745-17-07(A)

GM P

PTI A

Emissions Unit ID: P421

**Issued: To be entered upon final issuance**

Applicable Emissions  
Limitations/Control  
Measures

control requirements (see A.2.a)

6.3 tons nitrogen oxides (NOx)/yr (combustion emissions) per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)

The requirements of this rule also include compliance with the requirements of 40 CFR Part 52.21/OAC rule 3745-31-(10-20) OAC rule 3745-17-07(A).

Use of baghouse and VOC destruction efficiency (see A.III.1)

0.6 lbs NOx/hr, 2.63 tons NOx/yr

0.5 lbs carbon monoxide (CO)/hr, 2.19 tons CO/yr

0.13 lb volatile organic compounds (VOC)/hr, 0.57 ton VOC/yr (process emissions) (See A.I.2.c)

1.08 lbs particulate emissions (PE)/hr, 4.73 tons PE/yr (process emissions)(See A.I.2.c)

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

Visible PE shall not exceed 20% opacity as a six minute average, except as provided by rule

**Issued: To be entered upon final issuance****2. Additional Terms and Conditions**

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. furnace equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 100 lbs/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P419, P420, P421, and P422 shall not exceed 6.3 tons/yr based upon a rolling, 12-month summation of natural gas usage. (see A.II.4)
- 2.c.** The 0.13 lbs VOC/hr and 1.08 lbs PE/hr emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.d.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The permittee shall operate the sand reclaim furnace at a temperature to ensure a destruction efficiency of 98.5%.
2. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.  
  
\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.
3. The maximum annual natural gas usage for emissions units P419, P420, P421, and P422 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5
1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain continuous temperature monitor and recorder which measure and records the temperature within the sand reclaim furnace, when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
2. The permittee shall collect and record the following information each day:
  - a. All 3-hour blocks of time which the average temperature within the sand reclaim furnace, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

**Issued: To be entered upon final issuance**

4. The permittee shall maintain monthly records of the following information for emissions units P419, P420, P421 and P422, combined:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.
5. In addition to the above information, the permittee shall also record the following information each month for emissions units P419, P420, P421 and P422, combined:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the sand reclaim furnace does not comply with the temperature limitation specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and

- b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

## V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

5. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

**Issued: To be entered upon final issuance**

- a. Emission Limitation: 6.3 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.5.

- b. Emission Limitation: 0.6 lbs NO<sub>x</sub>/hr, 2.63 tons NO<sub>x</sub>/yr

Applicable Compliance Method:

Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [100 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.5 lb CO/hr, 2.19 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 298) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.13 lb VOC/hr, 0.57 ton VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 1.08 lbs PE/hr, 4.73 tons PE/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

## VI. Miscellaneous Requirements

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P421 - Sand Reclaim Furnace - Cell #3		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P422

Issued: To be entered upon final issuance

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P422 - Sand Reclaim Furnace - Cell #4	40 CFR Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)	OAC rule 3745-17-11(B)   OAC rule 3745-17-07(A)
	OAC rule 3745-31-05(A)	

GM P

PTI A

Emissions Unit ID: P422

**Issued: To be entered upon final issuance**

Applicable Emissions Limitations/Control Measures	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
control requirements (see A.2.a)	Visible PE shall not exceed 20% opacity as a six minute average, except as provided by rule
6.3 tons nitrogen oxides (NOx)/yr (combustion emissions) per rolling 12-month period based on natural gas usage restrictions (see A.I.2.b)	
The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/OAC rule 3745-31-(10-20) OAC rule 3745-17-07(A).	
Use of baghouse and VOC destruction efficiency (see A.III.1)	
0.6 lbs NOx/hr, 2.63 tons NOx/yr	
0.5 lbs carbon monoxide (CO)/hr, 2.19 tons CO/yr	
0.13 lb volatile organic compounds (VOC)/hr, 0.57 ton VOC/yr (process emissions) (See A.I.2.c)	
1.08 lbs particulate emissions (PE)/hr, 4.73 tons PE/yr (process emissions)(See A.I.2.c)	

**2. Additional Terms and Conditions**

- 2.a. The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
  - i. furnace equipped with low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 100 lbs/mmCf of natural gas burned.
- 2.b. In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P419, P420, P421, and P422 shall not exceed 6.3 tons/yr based upon a rolling, 12-month summation of natural gas usage (see A.II.4).
- 2.c. The 0.13 lbs VOC/hr and 1.08 lbs PE/hr emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.d. All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

- 1. The permittee shall operate the sand reclaim furnace at a temperature to ensure a destruction efficiency of 98.5%.
- 2. The pressure drop across the baghouse shall be maintained within the range of \* inches of water while the emissions unit is in operation.
 

\*The pressure drop range shall be established during the emission testing required in section A.V. The permittee shall operate the baghouse in accordance with these established values.
- 3. The maximum annual natural gas usage for emissions units P419, P420, P421, and P422 shall not exceed 126 mmCf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	10.5

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1-2	21.0
1-3	31.5
1-4	42.0
1-5	52.5
1-6	63.0
1-7	73.5
1-8	84.0
1-9	94.5
1-10	105.0
1-11	115.5
1-12	126.0

After the first 12 calendar months of operation under the provisions permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall operate and maintain continuous temperature monitor and recorder which measure and records the temperature within the sand reclaim furnace, when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
2. The permittee shall collect and record the following information each day:
  - a. All 3-hour blocks of time which the average temperature within the sand reclaim furnace, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

4. The permittee shall maintain monthly records of the following information for emissions units P419, P420, P421 and P422, combined:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.
5. In addition to the above information, the permittee shall also record the following information each month for emissions units P419, P420, P421 and P422, combined:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the sand reclaim furnace does not comply with the temperature limitation specified above.
2. The permittee shall submit pressure drop deviation (excursion) reports identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - d. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC and PE.
  - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Method 25A of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

2. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 6.3 tons NO<sub>x</sub> per rolling 12-month period

Emissions Unit ID: P422

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in section A.III.5.

- b. Emission Limitation: 0.6 lbs NOx/hr, 2.63 tons NOx/yr

Applicable Compliance Method:

Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [100 lbs NOx/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.5 lb CO/hr, 2.19 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 298) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 0.13 lb VOC/hr, 0.57 ton VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 1.08 lbs PE/hr, 4.73 tons PE/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

**Issued: To be entered upon final issuance**

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- f. Emission Limitation: 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method: OAC rule 3745-17-03(B)(1)

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P422 - Sand Reclaim Furnace - Cell #4		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P423

**Issued: To be entered upon final issuance**

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P423 - Receiving Furnace #1 (R1-2)	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)  OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-11(B)	

**Issued**

Emissions Unit ID: P423

Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
 A.I.2.a)

13.77 tons NO<sub>x</sub> per rolling  
 12-month period based upon  
 natural gas usage restrictions  
 (see A.I.2.d)

The requirements of this rule  
 also include compliance with  
 the requirements of 40 CFR  
 Part 52.21/OAC rule  
 3745-31-(10-20).

0.82 lb NO<sub>x</sub>/hr, 3.59 tons  
 NO<sub>x</sub>/yr

0.81 lb carbon monoxide  
 (CO)/hr,  
 3.55 tons CO/yr

24.45 lbs particulate  
 emissions (PE)/day, 4.46  
 tons PE/yr (holding, fluxing,  
 & drossing)

4.21 lbs hydrogen fluoride  
 (HF)/hr, 0.1 ton HF/yr

None (see A.2.b).

None (see A.2.c).

## 2. Additional Terms and Conditions

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following

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requirements for control of NO<sub>x</sub> emissions:

- i       furnaced designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 85 pounds NO<sub>x</sub>/mmCf of natural gas burned.
- 2.b.**   The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.c.**       This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.d.**   In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 13.77 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.e.**   The 0.82 lbs NO<sub>x</sub>/hr and 0.81 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f.**   All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1.       The maximum annual natural gas usage for emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 324 mmCf, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	27.0
1-2	54.0

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1-3	81.0
1-4	108.0
1-5	135.0
1-6	162.0
1-7	189.0
1-8	216.0
1-9	243.0
1-10	270.0
1-11	297.0
1-12	324.0

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the Cleaning Flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the Cover Flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas

usage.

2. In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.
2. The permittee shall submit deviation (excursion) reports when the fluxing or dressing operations on any day exceeds one hour.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.

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- b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs PE/hr-drossing); see V.3.d..
  - c. The following test method shall be employed to confirm company supplied emission rates: for PE, Method 5 of 40 CFR Part 60, Appendix A.  
  
Test Method 5 shall be performed for each of the following operating conditions: I. holding, ii. fluxing, and iii. drossing.
  - d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
- a. Emission Limitation: 6.89 tons NO<sub>x</sub> per rolling 12-month period  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- b. Emission Limitation: 0.82 lb NO<sub>x</sub>/hr, 3.59 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying manufacturer's guaranteed emission factor [85 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 9.6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.81 lb CO/hr, 3.55 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 24.45 lbs PE/day, 4.46 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: holding (0.875 lb PE/hr, 22 hrs/day), fluxing (1.545 lb PE/hr, 1 hr/day) and drossing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

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Emissions Unit ID: P423

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The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by 2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

**VI. Miscellaneous Requirements**

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P423 - Receiving Furnace #1 (R1-2)		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P424

Issued: To be entered upon final issuance

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P424 - Receiving Furnace #2 (R2-3)	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)  OAC rule 3745-31-05(A)	
	OAC rule 3745-17-11(B)	

**Issued**

Emissions Unit ID: P424

Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
 A.I.2.a)

13.77 tons NO<sub>x</sub> per rolling  
 12-month period based upon  
 natural gas usage restrictions  
 (see A.I.2.d)

The requirements of this rule  
 also include compliance with  
 the requirements of 40 CFR  
 Part 52.21/OAC rule  
 3745-31-(10-20).

0.82 lb NO<sub>x</sub>/hr, 3.59 tons  
 NO<sub>x</sub>/yr

0.81 lb carbon monoxide  
 (CO)/hr,  
 3.55 tons CO/yr

24.45 lbs particulate  
 emissions (PE)/day, 4.46  
 tons PE/yr (holding, fluxing,  
 & drossing)

4.21 lbs hydrogen fluoride  
 (HF)/hr, 0.1 ton HF/yr

None (see A.2.b).

None (see A.2.c).

## 2. Additional Terms and Conditions

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following

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requirements for control of NO<sub>x</sub> emissions:

- i.       furnaced designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 85 pounds NO<sub>x</sub>/mmCf of natural gas burned.
- 2.b.**   The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.c.**   This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.d.**   In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 13.77 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.e.**   The 0.82 lbs NO<sub>x</sub>/hr and 0.81 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f.**   All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1.       The maximum annual natural gas usage for emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 324 mmCf, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	27.0
1-2	54.0

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1-3	81.0
1-4	108.0
1-5	135.0
1-6	162.0
1-7	189.0
1-8	216.0
1-9	243.0
1-10	270.0
1-11	297.0
1-12	324.0

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the cleaning flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the cover flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

2. In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs PE/hr-drossing); see V.3.d..

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- c. The following test method shall be employed to confirm company supplied emission rates: for PE, Method 5 of 40 CFR Part 60, Appendix A.

Test Method 5 shall be performed for each of the following operating conditions: I. holding, ii. fluxing, and iii. drossing.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 6.89 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- b. Emission Limitation: 0.82 lb NO<sub>x</sub>/hr, 3.59 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying manufacturer's guaranteed emission factor [85 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 9.6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.81 lb CO/hr, 3.55 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 24.45 lbs PE/day, 4.46 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: holding (0.875 lb PE/hr, 22 hrs/day), fluxing (1.545 lb PE/hr, 1 hr/day) and dressing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by 2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

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**PTI A**

**Issued: To be entered upon final issuance**

**VI. Miscellaneous Requirements**

Emissions Unit ID: P424

NONE

**Issued: To be entered upon final issuance**

**B. State Only Enforceable Section**

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

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P424 - Receiving Furnace #2 (R2-3)		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

GM P

PTI A

Emissions Unit ID: P425

Issued: To be entered upon final issuance

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P425 - Receiving Furnace #3 (R3-4)	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)  OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-11(B)	

## Issued

Emissions Unit ID: P425

Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
A.I.2.a)

13.77 tons NO<sub>x</sub> per rolling  
12-month period based upon  
natural gas usage restrictions  
(see A.I.2.d)

The requirements of this rule  
also include compliance with  
the requirements of 40 CFR  
Part 52.21/OAC rule  
3745-31-(10-20).

0.82 lb NO<sub>x</sub>/hr, 3.59 tons  
NO<sub>x</sub>/yr

0.81 lb carbon monoxide  
(CO)/hr,  
3.55 tons CO/yr

24.45 lbs particulate  
emissions (PE)/day, 4.46  
tons PE/yr (holding, fluxing,  
& drossing)

4.21 lbs hydrogen fluoride  
(HF)/hr, 0.1 tons HF/yr

None (see A.2.b).

None (see A.2.c).

## 2. Additional Terms and Conditions

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following

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requirements for control of NO<sub>x</sub> emissions:

- i. furnaced designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 85 pounds NO<sub>x</sub>/mmCf of natural gas burned.
- 2.b.** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.c.** This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.d.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 13.77 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.e.** The 0.82 lbs NO<sub>x</sub>/hr and 0.81 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The maximum annual natural gas usage for emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 324 mmCf, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	27.0
1-2	54.0

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1-3	81.0
1-4	108.0
1-5	135.0
1-6	162.0
1-7	189.0
1-8	216.0
1-9	243.0
1-10	270.0
1-11	297.0
1-12	324.0

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the cleaning flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the cover flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

2. In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs PE/hr-drossing); see V.3.d..

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- c. The following test method shall be employed to confirm company supplied emission rates: for PE, Method 5 of 40 CFR Part 60, Appendix A.

Test Method 5 shall be performed for each of the following operating conditions: I. holding, ii. fluxing, and iii. drossing.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 6.89 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- b. Emission Limitation: 0.82 lb NO<sub>x</sub>/hr, 3.59 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying manufacturer's guaranteed emission factor [85 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 9.6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.81 lb CO/hr, 3.55 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 24.45 lbs PE/day, 4.46 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: holding (0.875 lb PE/hr, 22 hrs/day), fluxing (1.545 lb PE/hr, 1 hr/day) and dressing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by 2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

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**VI. Miscellaneous Requirements**

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NONE

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**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P425 - Receiving Furnace #3 (R3-4)		

**2. Additional Terms and Conditions**

**2.a** NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P426 - Holding Furnace #1 (H1-2)	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)   OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-11(B)	

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Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
 A.I.2.a)

13.77 tons NO<sub>x</sub> per rolling  
 12-month period based upon  
 natural gas usage restrictions  
 (see A.I.2.d)

The requirements of this rule  
 also include compliance with  
 the requirements of 40 CFR  
 Part 52.21/OAC rule  
 3745-31-(10-20).

0.82 lb NO<sub>x</sub>/hr, 3.59 tons  
 NO<sub>x</sub>/yr

0.81 lb carbon monoxide  
 (CO)/hr,  
 3.55 tons CO/yr

24.45 lbs particulate  
 emissions (PE)/day, 4.46  
 tons PE/yr (holding, fluxing,  
 & drossing)

4.21 lbs hydrogen fluoride  
 (HF)/hr, 0.1 tons HF/yr

None (see A.2.b).

None (see A.2.c).

## 2. Additional Terms and Conditions

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following

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requirements for control of NO<sub>x</sub> emissions:

- i. furnaced designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 85 pounds NO<sub>x</sub>/mmCf of natural gas burned.
- 2.b.** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.c.** This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.d.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 13.77 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.e.** The 0.82 lbs NO<sub>x</sub>/hr and 0.81 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

- 1. The maximum annual natural gas usage for emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 324 mmCf, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	27.0
1-2	54.0

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1-3	81.0
1-4	108.0
1-5	135.0
1-6	162.0
1-7	189.0
1-8	216.0
1-9	243.0
1-10	270.0
1-11	297.0
1-12	324.0

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the cleaning flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the cover flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual

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natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

2. In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs

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PE/hr-drossing); see V.3.d..

- c. The following test method shall be employed to confirm company supplied emission rates: for PE, Method 5 of 40 CFR Part 60, Appendix A.

Test Method 5 shall be performed for each of the following operating conditions: I. holding, ii. fluxing, and iii. drossing.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 6.89 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- b. Emission Limitation: 0.82 lb NO<sub>x</sub>/hr, 3.59 tons NO<sub>x</sub>/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined

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by multiplying manufacturer's guaranteed emission factor [85 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 9.6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.81 lb CO/hr, 3.55 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 24.45 lbs PE/day, 4.46 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: holding (0.875 lb PE/hr, 22 hrs/day), fluxing (1.545 lb PE/hr, 1 hr/day) and dressing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by

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2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

**VI. Miscellaneous Requirements**

NONE

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**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P426 - Holding Furnace #1 (H1-2)		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P427 - Holding Furnace #2 (H2-3)	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)  OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-11(B)	

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Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
A.I.2.a)

13.77 tons NO<sub>x</sub> per rolling  
12-month period based upon  
natural gas usage restrictions  
(see A.I.2.d)

The requirements of this rule  
also include compliance with  
the requirements of 40 CFR  
Part 52.21/OAC rule  
3745-31-(10-20).

0.82 lb NO<sub>x</sub>/hr, 3.59 tons  
NO<sub>x</sub>/yr

0.81 lb carbon monoxide  
(CO)/hr,  
3.55 tons CO/yr

24.45 lbs particulate  
emissions (PE)/day, 4.46  
tons PE/yr (holding, fluxing,  
& drossing)

4.21 lbs hydrogen fluoride  
(HF)/hr, 0.1 tons HF/yr

None (see A.2.b)

None (see A.2.c)

## 2. Additional Terms and Conditions

**2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:

- i. furnaced designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of

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85 pounds NO<sub>x</sub>/mmCf of natural gas burned.

- 2.b.** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.c.** This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.d.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 13.77 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.e.** The 0.82 lbs NO<sub>x</sub>/hr and 0.81 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f.** All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

1. The maximum annual natural gas usage for emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 324 mmCf, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	27.0
1-2	54.0
1-3	81.0
1-4	108.0
1-5	135.0

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1-6	162.0
1-7	189.0
1-8	216.0
1-9	243.0
1-10	270.0
1-11	297.0
1-12	324.0

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the cleaning flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the cover flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.
2. In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P425, P426, P427 and P428:

- a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
- a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs PE/hr-drossing); see V.3.d..
  - c. The following test method shall be employed to confirm company supplied emission rates: for PE, Method 5 of 40 CFR Part 60, Appendix A.

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Test Method 5 shall be performed for each of the following operating conditions: I. holding, ii. fluxing, and iii. drossing.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 6.89 tons NO<sub>x</sub> per rolling 12-month period  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.
  - b. Emission Limitation: 0.82 lb NO<sub>x</sub>/hr, 3.59 tons NO<sub>x</sub>/yr  
  
Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying manufacturer's guaranteed emission factor [85 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 9.6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore,

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provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.81 lb CO/hr, 3.55 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 24.45 lbs PE/day, 4.46 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: holding (0.875 lb PE/hr, 22 hrs/day), fluxing (1.545 lb PE/hr, 1 hr/day) and dressing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by 2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

## VI. Miscellaneous Requirements

NONE

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**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P427 - Holding Furnace #2 (H2-3)		

**2. Additional Terms and Conditions**

**2.a** NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P428 - Holding Furnace #3 (H3-4)	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)  OAC rule 3745-31-05(D)  OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-17-11(B)	

Applicable Emissions  
Limitations/Control  
Measures

control requirements (see  
 A.I.2.a)

13.77 tons NO<sub>x</sub> per rolling  
 12-month period based upon  
 natural gas usage restrictions  
 (see A.I.2.d)

The requirements of this rule  
 also include compliance with  
 the requirements of 40 CFR  
 Part 52.21/OAC rule  
 3745-31-(10-20).

0.82 lb NO<sub>x</sub>/hr, 3.59 tons  
 NO<sub>x</sub>/yr

0.81 lb carbon monoxide  
 (CO)/hr,  
 3.55 tons CO/yr

24.45 lbs particulate  
 emissions (PE)/day, 4.46  
 tons PE/yr (holding, fluxing,  
 & drossing)

4.21 lbs hydrogen fluoride  
 (HF)/hr, 0.1 tons HF/yr

None (see A.2.b).

None (see A.2.c).

## 2. Additional Terms and Conditions

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:

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- i. furnaced designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 85 pounds NO<sub>x</sub>/mmCf of natural gas burned.
- 2.b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.c. This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.d. In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Combined annual NO<sub>x</sub> emissions from emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 13.77 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.e. The 0.82 lbs NO<sub>x</sub>/hr and 0.81 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f. All PE is assumed to be in the form of PM<sub>10</sub>.

**II. Operational Restrictions**

- 1. The maximum annual natural gas usage for emissions units P423, P424, P425, P426, P427 and P428 shall not exceed 324 mmCf, combined, based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	27.0
1-2	54.0
1-3	81.0

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1-4	108.0
1-5	135.0
1-6	162.0
1-7	189.0
1-8	216.0
1-9	243.0
1-10	270.0
1-11	297.0
1-12	324.0

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the cleaning flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the cover flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

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2. In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P425, P426, P427 and P428:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

**IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

**V. Testing Requirements**

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs PE/hr-drossing); see V.3.d..
  - c. The following test method shall be employed to confirm company supplied emission rates:

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for PE, Method 5 of 40 CFR Part 60, Appendix A.

Test Method 5 shall be performed for each of the following operating conditions: I. holding, ii. fluxing, and iii. drossing.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation: 6.89 tons NO<sub>x</sub> per rolling 12-month period  
  
Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.
  - b. Emission Limitation: 0.82 lb NO<sub>x</sub>/hr, 3.59 tons NO<sub>x</sub>/yr  
  
Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying manufacturer's guaranteed emission factor [85 lbs NO<sub>x</sub>/mmCf] by the maximum capacity of 9.6 mmBtu/hr and dividing by the heating value of natural gas.

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The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- c. Emission Limitation: 0.81 lb CO/hr, 3.55 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 2/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 6 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 24.45 lbs PE/day, 4.46 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: holding (0.875 lb PE/hr, 22 hrs/day), fluxing (1.545 lb PE/hr, 1 hr/day) and drossing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by 2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

## VI. Miscellaneous Requirements

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NONE

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**B. State Only Enforceable Section**

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

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P428 - Holding Furnace #3 (H3-4)		

**2. Additional Terms and Conditions**

**2.a** NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE

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**Issued: To be entered upon final issuance****Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P429 - Stack melter	40 <u>CFR</u> Part 52.21 OAC rule 3745-31-(10-20)	control requirements (see A.I.2.a)
	OAC rule 3745-31-05(D)	5.49 tons nitrogen oxide (NO <sub>x</sub> ) per rolling 12-month period based upon natural gas usage restrictions (see A.I.2.b)
	OAC rule 3745-31-05(A)	The requirements of this rule also include compliance with the requirements of 40 <u>CFR</u> Part 52.21/OAC rule 3745-31-(10-20).  2.05 lb NO <sub>x</sub> /hr (see A.I.2.c), 5.49 tons/yr  1.51 lbs carbon monoxide (CO)/hr (see A.I.2.c), 6.61 tons CO/yr  46.86 lbs particulate emissions (PE)/day, 8.55 tons (PE)/yr  4.21 lbs hydrogen fluoride (HF)/hr, 0.1 tons HF/yr
	OAC rule 3745-17-11(B)	None (see A.I.2.d).
	OAC rule 3745-17-07(A)	None (see A.I.2.e).

## 2. Additional Terms and Conditions

- 2.a.** The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NO<sub>x</sub> emissions:
- i. furnace designed with Low NO<sub>x</sub> burners and designed to emit NO<sub>x</sub> at a rate of 114 pounds NO<sub>x</sub>/mmCf of natural gas burned.
- 2.b.** In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NO<sub>x</sub>, the permittee has requested federally enforceable restrictions to limit the potential to emit from the emissions units contained in this permit to install by limiting natural gas usage. Annual NO<sub>x</sub> emissions from this emissions unit shall not exceed 5.49 tons/yr, based upon a rolling, 12-month restriction of natural gas usage (see A.II.1).
- 2.c.** The 2.05 lbs NO<sub>x</sub>/hr and 1.51 lbs CO/hr emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.
- 2.d.** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 37454-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).
- 2.e.** This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.
- 2.f.** All PE is assumed to be in the form of PM<sub>10</sub>.

## II. Operational Restrictions

1. The maximum annual natural gas usage for this emissions unit shall not exceed 96.3 mmCf based upon a rolling, 12-month summation of natural gas usage.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the natural gas usage levels specified in the following table:

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<u>Month(s)</u>	<u>Maximum Cumulative natural gas usage (mmCf)</u>
1	8.0
1-2	16.0
1-3	24.0
1-4	32.0
1-5	40.0
1-6	48.0
1-7	56.0
1-8	64.0
1-9	72.0
1-10	80.0
1-11	88.0
1-12	96.3

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual natural gas usage shall be based upon a rolling 12-month summation of the natural gas usage.

2. During the hours when the cleaning flux (Wedron) is being used on the Ladling Furnaces:
  - a. no other fluxing may be done for the lost foam operations; and
  - b. only two Ladling furnaces may be fluxed in the same hour.
3. During the hours when the cover flux (Reelikleen) is being used on the Receiving/Holding Furnaces Launder System:
  - a. no other fluxing may be done for the lost foam operations.
4. Total flux and dross time in this emissions unit shall not exceed one hour.

**III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the quantity of natural gas combusted, in mmCf;
  - b. for the first 12 months of operation under the provisions of this permit, the cumulative monthly natural gas usage; and

- c. after the first 12 months of operation under the provisions of this permit, the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.
2. In addition to the above information, the permittee shall also record the following information each month for emissions unit:
  - a. the calculated NO<sub>x</sub> emission rate, in tons per month;
  - b. for the first 12 months of operation under the provision of this permit, the cumulative monthly NO<sub>x</sub> emission rate, in tons; and
  - c. after the first 12 months of operation under the provisions of this permit, the annual NO<sub>x</sub> emission rate, based on a rolling, 12-month summation of the monthly NO<sub>x</sub> emissions.
3. The permittee shall maintain daily records of the following information for this emissions unit:
  - a. company identification of the fluxing agent used;
  - b. the duration of fluxing time, in hours; and
  - c. the identification number of furnaces fluxed within the same hour.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify exceedances of any of the following:
  - a. for the first 12 calendar months of operation, all exceedances of the allowable cumulative natural gas usage; and
  - b. the annual natural gas usage restrictions and emission limitation per rolling 12-month period.

#### V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 6 months after start-up of this emissions unit.
  - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE by confirming company supplied emission rates for: melting

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(1.942 lbs PE/hr-melting), holding (0.875 lbs PE/hr-holding), fluxing (1.545 lbs PE/hr-fluxing), and drossing (3.655 lbs PE/hr-drossing); see V.3.d..

- c. The following test method shall be employed to confirm company supplied emission rates: for PE, Method 5 of 40 CFR Part 60, Appendix A.

Test Method 5 shall be performed for each of the following operating conditions: I. melting, ii. holding, iii. fluxing, and iv. drossing.

- d. The test shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 5.49 tons NO<sub>x</sub> per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in sections A.III.5.

- b. Emission Limitation: 2.05 lb NO<sub>x</sub>/hr, 5.49 tons NO<sub>x</sub>/yr

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Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [114 lbs NOx/mmCf] by the maximum capacity of 18 mmBtu/hr and dividing by the heating value of natural gas.

Compliance with the tons/yr limitation shall be demonstrated through compliance with the rolling 12-month emission limitation.

- c. Emission Limitation: 1.51 lb CO/hr, 6.61 tons CO/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined by multiplying the AP-42, section 1.4 (revised 7/98) emission factor [84 lbs CO/mmCf] by the maximum capacity of 18 mmBtu/hr and dividing by the heating value of natural gas.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation: 46.86 lbs PE/day, 8.55 tons PE/yr

Applicable Compliance Method: The lb PE/day represents the potential to emit for this emissions unit based on the additive maximum pound/hr of the following operations and the maximum duration of the operation: melting (1.942 lbs PE/hr, 21 hrs/day), holding (0.875 lb PE/hr, 1 hr/day), fluxing (1.545 lb PE/hr, 1 hr/day) and drossing (3.655 lbs PE/hr, 1 hr/day). Compliance with the lb/hr limitations shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 365 days/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- e. Emission Limitation: 4.21 lbs HF/hr, 0.1 ton HF/yr

Applicable Compliance Method: The lb HF/hr was determined by multiplying the maximum amount of cleaning flux [Wedron] (40 lbs) by the HF content of the fluxing agent (0.319 lb HF/lb flux) by the emission factor (0.33 lb HF emitted/lb HF). Compliance with the lb/hr limitations shall be determined by the recordkeeping specified in A.III above.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 1 day/week, 1 hour/day, 52 weeks/year and dividing by 2000 lbs/ton. Compliance with the tpy limitation shall be determined by the recordkeeping specified in A.III above.

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**PTI A**

**Issued: To be entered upon final issuance**

Emissions Unit ID: P429

**VI. Miscellaneous Requirements**

NONE

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PTI A

Emissions Unit ID: P429

**Issued: To be entered upon final issuance****B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(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 specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P429 - Stack melter #1		

**2. Additional Terms and Conditions**

2.a NONE

**II. Operational Restrictions**

NONE

**III. Monitoring and/or Recordkeeping Requirements**

NONE

**IV. Reporting Requirements**

NONE

**V. Testing Requirements**

NONE

**VI. Miscellaneous Requirements**

NONE