

AIR EMISSION SUMMARY

The air contaminant sources listed below comprise the Permit to Install for Delphi Harrison Thermal Systems located in Montgomery County. The sources listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Permit Allowable

Ohio EPA Source #	Source Description	Applicable BAT Determination	Mass Emissions and Federal and OAC Rules	Control & Usage Requirements
P106	Diesel Engine Hot Test Stand No. 1	*	3745-31-05	<p>NOx: 0.57 lb/hr, 1.50 TPY;</p> <p>CO: 0.29 lb/hr, 0.76 TPY;</p> <p>SO2: 0.13 lb/hr, 0.34 TPY;</p> <p>VOC: 0.03 lb/hr, 0.08 TPY;</p> <p>PM: 0.14 lb/hr, 0.37 TPY;</p> <p>Annual limits are based upon a rolling, 12-month summation.</p> <p>The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.</p> <p>Visible emissions shall not exceed 10% opacity, as a 6-minute average.</p>
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
P107	Diesel Engine Hot Test Stand No. 2	*	3745-31-05	<p>NOx: 0.57 lb/hr, 1.50 TPY;</p> <p>CO: 0.29 lb/hr, 0.76 TPY;</p>

SO₂: 0.13 lb/hr,

0.34 TPY;

VOC: 0.03 lb/hr,

0.08 TPY;

PM: 0.14 lb/hr,

0.37 TPY;

Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NO_x; 4.78 TPY CO; 2.22 TPY SO₂; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.

Visible emissions shall not exceed 10% opacity, as a 6-minute average.

3745-17-07
(A)

Less stringent than the opacity limit established above for BAT.

P108

Diesel Engine
Hot Test Stand
No. 3

*

3745-31-05

NO_x: 0.57 lb/hr,
1.50 TPY;

CO: 0.29 lb/hr,

0.76 TPY;

SO₂: 0.13 lb/hr,
0.34 TPY;

VOC: 0.03 lb/hr,
0.08 TPY;

PM: 0.14 lb/hr,
0.37 TPY;

Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not

				to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.
				Visible emissions shall not exceed 10% opacity, as a 6-minute average.
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
P109	Diesel Engine Hot Test Stand No. 4	*	3745-31-05	<p><u>NOx</u>: 0.57 lb/hr, 1.50 TPY;</p> <p><u>CO</u>: 0.29 lb/hr, 0.76 TPY;</p> <p><u>SO2</u>: 0.13 lb/hr, 0.34 TPY;</p> <p><u>VOC</u>: 0.03 lb/hr, 0.08 TPY;</p> <p><u>PM</u>: 0.14 lb/hr, 0.37 TPY;</p> <p>Annual limits are based upon a rolling, 12-month summation.</p> <p>The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.</p> <p>Visible emissions shall not exceed 10% opacity, as a 6-minute average.</p>
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.

P110	Diesel Engine Hot Test Stand No. 5	*	3745-31-05	<p><u>NOx</u>: 0.57 lb/hr, 1.50 TPY; <u>CO</u>: 0.29 lb/hr, 0.76 TPY; <u>SO2</u>: 0.13 lb/hr, 0.34 TPY; <u>VOC</u>: 0.03 lb/hr, 0.08 TPY; <u>PM</u>: 0.14 lb/hr, 0.37 TPY;</p>
				<p>Annual limits are based upon a rolling, 12-month summation.</p>
				<p>The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.</p>
				<p>Visible emissions shall not exceed 10% opacity, as a 6-minute average.</p>
			3745-17-07 (A)	<p>Less stringent than the opacity limit established above for BAT.</p>
P111	Diesel Engine Hot Test Stand No. 6	*	3745-31-05	<p><u>NOx</u>: 0.57 lb/hr, 1.50 TPY; <u>CO</u>: 0.29 lb/hr, 0.76 TPY; <u>SO2</u>: 0.13 lb/hr, 0.34 TPY; <u>VOC</u>: 0.03 lb/hr, 0.08 TPY; <u>PM</u>: 0.14 lb/hr, 0.37 TPY;</p>
				<p>Annual limits are based upon a rolling, 12-month summation.</p>

				<p>The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.</p> <p>Visible emissions shall not exceed 10% opacity, as a 6-minute average.</p>
			3745-17-07 (A)	<p>Less stringent than the opacity limit established above for BAT.</p>
P112	Diesel Engine Hot Test Stand No. 7	*	3745-31-05	<p>NOx: 0.57 lb/hr, 1.50 TPY; CO: 0.29 lb/hr, 0.76 TPY; SO2: 0.13 lb/hr, 0.34 TPY; VOC: 0.03 lb/hr, 0.08 TPY; PM: 0.14 lb/hr, 0.37 TPY; Annual limits are based upon a rolling, 12-month summation.</p> <p>The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.</p> <p>Visible emissions shall not exceed 10% opacity, as a 6-minute average.</p>

3745-17-07
(A) Less stringent than the opacity limit established above for BAT.

P113 Diesel Engine Hot Test Stand No. 8

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3745-31-05 **NOx:** 0.57 lb/hr, 1.50 TPY;
CO: 0.29 lb/hr, 0.76 TPY;
SO2: 0.13 lb/hr, 0.34 TPY;
VOC: 0.03 lb/hr, 0.08 TPY;
PM: 0.14 lb/hr, 0.37 TPY;
Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO2; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.

Visible emissions shall not exceed 10% opacity, as a 6-minute average.

3745-17-07
(A) Less stringent than the opacity limit established above for BAT.

P114 Diesel Engine Hot Test Stand No. 9

*

3745-31-05 **NOx:** 0.57 lb/hr, 1.50 TPY;
CO: 0.29 lb/hr, 0.76 TPY;
SO2: 0.13 lb/hr, 0.34 TPY;
VOC: 0.03 lb/hr, 0.08 TPY;
PM: 0.14 lb/hr, 0.37 TPY;

Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P106, P107, P108, P109, P110, P111, P112, P113 and P114 are not to exceed 9.55 TPY NOx; 4.78 TPY CO; 2.22 TPY SO₂; 0.48 TPY VOC; 2.39 TPY PM; as a rolling, 12-month summation.

Visible emissions shall not exceed 10% opacity, as a 6-minute average.

3745-17-07
(A)

Less stringent than the opacity limit established above for BAT.

P115

Diesel Engine
Audit Test Stand
No. 1

*

3745-31-05

NOx: 1.76 lb/hr,
2.94 TPY;
CO: 0.88 lb/hr,
1.47 TPY;
SO₂: 0.41 lb/hr,
0.68 TPY;
VOC: 0.09 lb/hr,
0.15 TPY;
PM: 0.44 lb/hr,
0.73 TPY;
Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P115, P116, P117 and P118 shall not exceed 2.94 TPY NOx; 1.47 TPY CO; 0.68 TPY SO₂; 0.15 TPY VOC; 0.73 TPY PM; as a rolling, 12-month summation.

Visible emissions

				shall not exceed 10% opacity, as a 6-minute average.
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
P116	Diesel Engine Audit Test Stand No. 2	*	3745-31-05	<p>NOx: 1.76 lb/hr, 2.94 TPY;</p> <p>CO: 0.88 lb/hr, 1.47 TPY;</p> <p>SO2: 0.41 lb/hr, 0.68 TPY;</p> <p>VOC: 0.09 lb/hr, 0.15 TPY;</p> <p>PM: 0.44 lb/hr, 0.73 TPY;</p> <p>Annual limits are based upon a rolling, 12-month summation.</p> <p>The total combined emissions for P115, P116, P117 and P118 shall not exceed 2.94 TPY NOx; 1.47 TPY CO; 0.68 TPY SO2; 0.15 TPY VOC; 0.73 TPY PM; as a rolling, 12-month summation.</p> <p>Visible emissions shall not exceed 10% opacity, as a 6-minute average.</p>
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
P117	Diesel Engine Audit Test Stand No. 3	*	3745-31-05	<p>NOx: 1.76 lb/hr, 2.94 TPY;</p> <p>CO: 0.88 lb/hr, 1.47 TPY;</p> <p>SO2: 0.41 lb/hr, 0.68 TPY;</p> <p>VOC: 0.09 lb/hr, 0.15 TPY;</p> <p>PM: 0.44 lb/hr,</p>

0.73 TPY;
Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P115, P116, P117 and P118 shall not exceed 2.94 TPY NOx; 1.47 TPY CO; 0.68 TPY SO₂; 0.15 TPY VOC; 0.73 TPY PM; as a rolling, 12-month summation.

Visible emissions shall not exceed 10% opacity, as a 6-minute average.

3745-17-07
(A)

Less stringent than the opacity limit established above for BAT.

P118

Diesel Engine
Audit Test Stand
No. 4

*

3745-31-05

NOx: 1.76 lb/hr,
2.94 TPY;
CO: 0.88 lb/hr,
1.47 TPY;
SO₂: 0.41 lb/hr,
0.68 TPY;
VOC: 0.09 lb/hr,
0.15 TPY;
PM: 0.44 lb/hr,
0.73 TPY;
Annual limits are based upon a rolling, 12-month summation.

The total combined emissions for P115, P116, P117 and P118 shall not exceed 2.94 TPY NOx; 1.47 TPY CO; 0.68 TPY SO₂; 0.15 TPY VOC; 0.73 TPY PM; as a rolling, 12-month summation.

Visible emissions shall not exceed 10%

				opacity, as a 6-minute average.
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
P119	Wet Machining Operations	**	3745-31-05	PM: 1.3 lbs/hr, 3.31 TPY; VOC: 3.9 lbs/hr, 10.32 TPY Annual limits are based upon a rolling, 12-month summation. Visible emissions shall not exceed 5% opacity as a 6-minute average.
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
			3745-17-11	Less stringent than the mass emission limit established above for BAT.
P120	Dry Machining Operations	*	3745-31-05	0.7 lb/hr PM, 1.76 TPY PM, as a rolling, 12-month summation. Visible emissions shall not exceed 5% opacity as a 6-minute average.
			3745-17-07 (A)	Less stringent than the opacity limit established above for BAT.
			3745-17-11	Less stringent than the mass emission limit established above for BAT.
P121	Electronic Fuel Injection Calibration Stand	*	3745-31-05	2.8 lbs VOC/hr; 7.30 TPY VOC, as a rolling, 12-month summation.
P122	Heat Treat	**	3745-31-05	0.41 lb/hr PM,

1.07 TPY PM; 0.37 lb/hr NH3, 0.97 TPY NH3; 0.05 lb/hr NOx; 0.14 TPY NOx; 0.01 lb/hr CO; 0.03 TPY CO; as a rolling, 12-month summation.

Visible emissions shall not exceed 20% opacity, as a 6-minute average.

3745-17-07 (A) Less stringent than the opacity limit established above for BAT.

3745-17-11 (A)(2) Same as the mass emission limit established above for BAT.

* BAT is compliance with applicable OAC rules and specified emission limitations; record keeping and reporting requirements. In addition, for emissions unit P120 BAT shall include the use of a fabric filter with an operating control efficiency of at least 90%.

** BAT is compliance with applicable OAC rules, specified emission limitations and the Air Toxics Policy; record keeping and reporting requirements. In addition, for emissions unit P122 BAT shall include the use of a thermal incinerator with an operating control efficiency of at least 80%.

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS			
<u>Pollutant</u>	<u>Tons/Year</u>		
VOC		18.25	
NOx			12.63
PM			9.26
CO			6.28
SO2			2.90
NH3			0.97

Facility Name: Delphi Harrison Thermal Systems (Powertrain)
OEPA Premises # 0857100030
PTI #08-3840

ADDITIONAL SPECIAL TERMS & CONDITIONS

A. Operational Restrictions:

1. The maximum annual production rate for this facility shall not exceed 200,000 engines, based upon a rolling, 12-month summation of monthly production records.

To ensure enforceability during the first 12 calendar months of operation following the startup of the engine plant, the permittee shall not exceed the production levels specified in the following table:

<u>Month(s)</u>	<u>Engine Production</u>
1 to 3	50,000 engines
1 to 6	100,000 engines
1 to 9	150,000 engines
1 to 12	200,000 engines

After the first 12 calendar months of operation following the startup of this facility, compliance with the annual production limitation shall be based upon a rolling, 12-month summation of the monthly production records.

2. The maximum annual operating hours for this facility shall not exceed 5,250 hours.

To ensure enforceability during the first 12 calendar months of operation following the startup of the engine plant, the permittee shall not exceed the production levels specified in the following table:

<u>Month(s)</u>	<u>Hours of Operation</u>
1 to 3	1313 hours
1 to 6	2625 hours
1 to 9	3938 hours
1 to 12	5250 hours

After the first 12 calendar months of operation following the startup of this facility, compliance with the annual hours of operation limitation shall be based upon a rolling, 12-month summation of the monthly hours of operation.

3. The maximum annual engines tested by the audit test stands, emissions units **P115, P116, P117 and P118**, shall not exceed a combined total of 20,000 engines tested, based upon a rolling, 12-month summation of monthly testing records.

To ensure enforceability during the first 12 calendar months of operation following the startup of emissions units **P115, P116, P117 and P118**, the permittee shall not exceed

the engine audit tests specified in the following table:

Month(s)	Engine Audit Tests
1 to 3	5,000 engines
1 to 6	10,000 engines
1 to 9	15,000 engines
1 to 12	20,000 engines

After the first 12 calendar months of operation following the startup of emissions units **P115, P116, P117 and P118**, compliance with the maximum annual engines tested limitation shall be based upon a rolling, 12-month summation of the monthly engines tested.

4. The maximum annual coolant usage employed by emissions unit **P119** shall not exceed 258,000 gallons, based upon a rolling, 12-month summation of monthly production records.

To ensure enforceability during the first 12 calendar months of operation following the startup of emissions unit **P119**, the permittee shall not exceed the coolant usage specified in the following table:

Month(s)	Coolant Usage (gal)
1 to 3	64,500
1 to 6	129,000
1 to 9	193,500
1 to 12	258,000

After the first 12 calendar months of operation following the startup of emissions unit **P119**, compliance with the annual coolant usage limitation shall be based upon a rolling, 12-month summation of the monthly coolant usage.

5. The VOC content of the coolant employed in emissions unit **P119**, Coolant System for Wet Machining, shall not exceed 0.08 pounds per gallon.
6. The maximum annual diesel fuel usage for the diagnostic checks performed on the engines by the Fuel Injection Stands, emissions unit **P121**, shall not exceed 2,000 gallons, based upon a rolling, 12-month summation of monthly production records.

To ensure enforceability during the first 12 calendar months of operation following the startup of emissions unit **P121**, the permittee shall not exceed the diesel fuel usage specified in the following table:

Month(s)	Fuel Injection Tests
1 to 3	500 gal
1 to 6	1,000 gal
1 to 9	1,500 gal
1 to 12	2,000 gal

After the first 12 calendar months of operation following the startup of emissions unit

P121, compliance with the annual diesel fuel usage limitation shall be based upon a rolling, 12-month summation of the monthly diesel fuel usage.

7. The pressure drop across the fabric filter shall be maintained within the range established during the most recent emission test that demonstrated that the emission unit **P120**, Dry Machining Operations, was in compliance or by the manufacturer's recommendation.
8. The average combustion temperature within the thermal incinerator, 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 that emissions unit **P122**, Heat Treat, was in compliance.

B. Monitoring and/or Record Keeping Requirements:

1. The permittee shall maintain monthly records of the following information:
 - a. the total number of engines produced;
 - b. the total number of hours operated;
 - c. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the production rates.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative production rate of engines produced for each calendar month; and

- d. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

2. The permittee shall maintain monthly records of the following information for emissions units **P115, P116, P117 and P118**, Diesel Engine Audit Test Stands:
 - a. the total number of engines tested by the audit test stands; and
 - b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the total number of engines tested by the audit test stands.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative total number of engines tested by the audit test stands for each calendar month.

3. The permittee shall maintain monthly records of the following information for emissions

unit **P119**, the Coolant System for Wet Machining:

- a. the total amount, in gallons, of coolant usage;
- b. the total VOC emissions from the coolant usage, in pounds;
- c. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the total amount, in gallons, of coolant usage.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative total amount, in gallons, of coolant usage for each calendar month; and

- d. the rolling, 12-month summation of the VOC emissions from the coolant usage, in tons.

4. For the dry machining operations, emissions unit **P120**:

The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the fabric filter 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.

5. The permittee shall maintain monthly records of the following information for emissions unit **P121**, the Fuel Injection Calibration Stand:

- a. the total amount, in gallons, of diesel fuel usage;
- b. the total VOC emissions from the diesel fuel usage;
- c. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the total amount, in gallons, of diesel fuel usage.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative total amount, in gallons, of diesel fuel usage for each calendar month.

- d. the rolling, 12-month summation of the VOC emissions, in tons.

6. For emissions unit **P122**, the Heat Treat, the permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator 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.

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 thermal incinerator, 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.
7. 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. Reporting Requirements:

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the fabric filter, for emission unit **P120**, did not comply with the allowable range as specified in Term and Condition A.7.
2. The permittee shall submit quarterly deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, for emissions unit **P122**, does not comply with the temperature limitation specified in Term and Condition A.8.
3. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month engine production limitation, operating hours limitation, engines tested by audit test stands limitation, coolant usage limitation, coolant VOC content limitation, diesel fuel usage limitation, and for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative production levels, operating hour levels, engines tested by audit test stand levels, coolant fuel usage levels and diesel fuel usage levels.

The permittee shall submit required quarterly deviation (excursion) reports in the following manner:

- a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations and operational restrictions that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or

preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

4. The permittee shall submit, in writing, an annual report to the Director (the Regional Air Pollution Control Agency) which specifies: the total engine production; hours of operation; engines tested by the audit test stand; coolant usage; diesel fuel usage; the combined emissions for the Diesel Engine Hot Test Stands (emissions units **P106, P107, P108, P109, P110, P111, P112, P113 and P114**); the combined emissions for the Diesel Engine Audit Test Stands (emissions units **P115, P116, P117 and P118**); the particulate and VOC emissions from the Wet Machining Operations (emissions unit **P119**); the particulate emissions from the Dry Machining Operations (emissions unit **P120**); the VOC emissions from the Electronic Fuel Injection Stand (emissions unit **P121**); the PM, NH₃, NO_x and CO emissions from the Heat Treat (emissions unit **P122**). These reports shall be submitted by January 31 of each year and shall cover the previous 12 calendar months.

D. Compliance Method Determination:

Compliance with the emission limitation(s) of these terms and conditions shall be determined in accordance with the following method(s):

For P106 thru P114

1. Emission Limitation -
0.57 pound NO_x per hour (common hourly emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -
Compliance for each hot test stand shall be determined by multiplying the company derived emission rate of (A.) 4.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 2.2 pounds per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.
2. Emission Limitation -
1.50 tons NO_x per year (common annual emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -
Compliance for each hot test stand shall be determined by multiplying the hourly emission rate for NO_x, (A.) 0.57 lbs/hr, by the maximum annual operating hours, (B.) 5,250 hrs/yr.
3. Emission Limitation -

9.55 tons NO_x per year (combined total emissions for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate of (A.) 4.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 2.2 pounds per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 200,000 engines per year.

4. Emission Limitation -

0.29 pound CO per hour (common hourly emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the company derived emission rate of (A.) 2.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 1.1 pounds per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

5. Emission Limitation -

0.76 tons CO per year (common annual emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the hourly emission rate for CO, (A.) 0.29 lbs/hr, by the maximum annual operating hours, (B.) 5,250 hrs/yr.

6. Emission Limitation -

4.78 tons CO per year (combined total emissions for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate of (A.) 2.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 1.1 pounds per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 200,000 engines per year.

7. Emission Limitation -

0.13 pound SO₂ per hour (common hourly emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the AP-42 emission rate (Table 3.3-3) of (A.) 0.931 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per

pound. The result, 0.51 pound per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

8. Emission Limitation -
0.34 tons SO₂ per year (common annual emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the hourly emission rate for SO₂, (A.) 0.13 lbs/hr, by the maximum annual operating hours, (B.) 5,250 hrs/yr.

9. Emission Limitation -
2.22 tons SO₂ per year (combined total emissions for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance shall be determined by multiplying the AP-42 emission rate (Table 3.3-3) of (A.) 0.931 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 0.51 pound per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 200,000 engines per year.

10. Emission Limitation -
0.03 pound VOC per hour (common hourly emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the company derived emission rate of (A.) 0.2 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 0.11 pound per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

11. Emission Limitation -
0.08 tons VOC per year (common annual emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the hourly emission rate for VOC, (A.) 0.03 lbs/hr, by the maximum annual operating hours, (B.) 5,250 hrs/yr.

12. Emission Limitation -
0.48 ton VOC per year (combined total emissions for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate of (A.) 0.2 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 0.11 pound per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 200,000 engines per year.

13. Emission Limitation -

0.14 pound PM per hour (common hourly emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the AP-42 emission rate (Table 3.3-2) of (A.) 1.0 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 0.55 pounds per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

14. Emission Limitation -

0.37 tons PM per year (common annual emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance for each hot test stand shall be determined by multiplying the hourly emission rate for PM, (A.) 0.14 lbs/hr, by the maximum annual operating hours, (B.) 5,250 hrs/yr.

15. Emission Limitation -

2.39 ton PM per year (combined total emissions for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance shall be determined by multiplying the AP-42 emission rate (Table 3.3-2) of (A.) 1.0 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 0.55 pound per hour, is then multiplied by a factor of (B.) 0.04333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 200,000 engines per year.

16. Emission Limitation -

Visible emissions shall not exceed 10% opacity for a 6-minute average (common visible emission limitation for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -

Compliance shall be determined through visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in USEPA Method Reference Method 9.

For P115 thru P118

17. Emission Limitation -
1.76 pounds NOx per hour (common hourly emission limitation for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -
Compliance for each audit test stand shall be determined by multiplying the company derived emission rate of (A.) 4.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 2.2 pounds per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.
18. Emission Limitation -
2.94 tons NOx per year (common and combined total emissions for emissions units: P106, P107, P108, P109, P110, P111, P112, P113 and P114)

Applicable Compliance Method -
Compliance shall be determined by multiplying the company derived emission rate of (A.) 4.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 2.2 pounds per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 20,000 engines per year.
19. Emission Limitation -
0.88 pound CO per hour (common hourly emission limitation for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -
Compliance for each audit test stand shall be determined by multiplying the company derived emission rate of (A.) 2.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 1.1 pounds per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.
20. Emission Limitation -
1.47 tons CO per year (common and combined total emissions for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -
Compliance shall be determined by multiplying the company derived emission rate of (A.) 2.0 grams per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 1.1 pounds per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 20,000 engines per year.
21. Emission Limitation -
0.41 pound SO2 per hour (common hourly emission limitation for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance for each audit test stand shall be determined by multiplying the AP-42 emission rate (Table 3.3-3) of (A.) 0.931 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 0.51 pound per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

22. Emission Limitation -

0.68 ton SO₂ per year (common and combined total emissions for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance shall be determined by multiplying the AP-42 emission rate (Table 3.3-3) of (A.) 0.931 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 0.51 pound per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 20,000 engines per year.

23. Emission Limitation -

0.09 pound VOC per hour (common hourly emission limitation for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance for each audit test stand shall be determined by multiplying the company derived emission rate of (A.) 0.2 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 0.11 pound per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

24. Emission Limitation -

0.15 ton VOC per year (common and combined total emissions for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate of (A.) 0.2 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 0.11 pound per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 20,000 engines per year.

25. Emission Limitation -

0.44 pound PM per hour (common hourly emission limitation for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance for each audit test stand shall be determined by multiplying the AP-42 emission rate (Table 3.3-2) of (A.) 1.0 gram per horsepower-hour by the average

horsepower output during the test, 250 horsepower, and dividing 453.6 grams per pound. The result, 0.55 pounds per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per hour, (C.) 6 engines per hour.

26. Emission Limitation -
0.73 ton PM per year (common and combined total emissions for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance shall be determined by multiplying the AP-42 emission rate (Table 3.3-2) of (A.) 1.0 gram per horsepower-hour by the average horsepower output during the test, 250 horsepower, and dividing by 453.6 grams per pound. The result, 0.55 pound per hour, is then multiplied by a factor of (B.) 0.1333 hours per test, and then multiplied by the maximum number of engines tested per year, (C.) 20,000 engines per year.

27. Emission Limitation -
Visible emissions shall not exceed 10% opacity for a 6-minute average (common visible emission limitation for emissions units: P115, P116, P117 and P118)

Applicable Compliance Method -

Compliance shall be determined through visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in USEPA Method Reference Method 9.

P119

28. Emission Limitation -
1.3 pounds PM per hour

Applicable Compliance Method -

Compliance shall be determined by dividing the company derived emission rate of (A.) 0.0007 grains per dry standard cubic foot by 7000 grains per pound, and then multiply the result, 1.0 EE-7 lb/dscf, by the maximum air flow rate, (B.) 12.6 MMft³/hr.

29. Emission Limitation -
3.31 tons PM per year

Applicable Compliance Method -

Compliance shall be determined by dividing the company derived emission rate of (A.) 0.0007 grains per dry standard cubic foot by 7000 grains per pound, then multiply the result, 1.0 EE-7 lb/dscf, by the maximum air flow rate, (B.) 12.6 MMft³/hr, and then multiply the result by the maximum number of hours operated per year (C.) 5,250 hours per year.

30. Emission Limitation -
3.9 pounds of VOC per hour

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly usage rate of coolant, 49.125 gallons per hour, by the maximum VOC content of coolant, 0.08

pounds VOC per gallon.

31. Emission Limitation -
10.32 tons VOC per year

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum annual coolant usage, 258,000 gallons, by the VOC content of the coolant, 0.08 pounds per gallon.

32. Emission Limitation -
Visible emissions shall not exceed 5% opacity as a 6-minute average.

Applicable Compliance Method -

Compliance shall be determined through visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in USEPA Method Reference Method 9.

P120

33. Emission Limitation -
0.7 pound PM per hour

Applicable Compliance Method -

Compliance shall be determined by dividing the company derived emission rate of (A.) 0.003 grains per dry standard cubic foot by 7000 grains per pound, and then multiply the result, 4.29 EE-7 lb/dscf, by the maximum hourly air flow rate, (B.) 1.56 MMft³/hr.

34. Emission Limitation -
1.76 tons PM per year

Applicable Compliance Method -

Compliance shall be determined by dividing the company derived emission rate of (A.) 0.003 grains per dry standard cubic foot by 7000 grains per pound, then multiply the result, 4.29 EE-7 lb/dscf, by the maximum hourly air flow rate, (B.) 1.56 MMft³/hr, and then multiply the result by the maximum number of hours operated per year (C.) 5,250 hours per year.

35. Emission Limitation -
Visible emissions shall not exceed 5% opacity as a 6-minute average.

Applicable Compliance Method -

Compliance shall be determined through visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in USEPA Method Reference Method 9.

For P121

36. Emission Limitation -
2.8 pounds VOC per hour

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly usage rate of

diesel fuel, 0.38 gallons per hour, by the VOC content of diesel fuel, 7.3 pounds VOC per gallon.

37. Emission Limitation -
7.3 tons VOC per year

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum annual diesel fuel usage, 2,000 gallons, by the VOC content of the diesel fuel, 7.3 pounds per gallon.

For P122

38. Emission Limitation -
0.41 lb PM per hour

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate, (A.) 1.42 EE-4 lbs PM/lbs of part, by the pounds per part, (B.) 65 lbs/part, and then multiply the result by the maximum number of parts per hour, (C.) 44 parts/hour.

39. Emission Limitation -
1.07 tons PM per year

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate, (A.) 1.42 EE-4 lbs PM/lbs of part, by the pounds per part, (B.) 65 lbs/part, then multiply the result by the maximum number of parts per hour, (C.) 44 parts/hour, and finally multiply the result by the maximum number of hours operated per year, (D.) 5,250 hours/year.

40. Emission Limitation -
0.37 pounds NH₃ per hour

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate, (A.) 4.41 EE-7 lbs/ft³, by the maximum hourly air flow rate, (B.) 840,000 ft³/hr.

41. Emission Limitation -
0.97 tons NH₃ per year

Applicable Compliance Method -

Compliance shall be determined by multiplying the company derived emission rate, (A.) 4.41 EE-7 lbs/ft³, by the maximum hourly air flow rate, (B.) 840,000 ft³/hr, then multiply the results by the maximum number of operating hours, (C.) 5,250 hours per year.

42. Emission Limitation -
0.05 pound NO_x per hour

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly natural gas usage rate, (A.) 519 ft³/hr, by the AP-42 NO_x emission factor (Table 1.4-1), (B.) 0.0001 lbs/ft³.

43. Emission Limitation -
0.14 tons NOx/yr

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly natural gas usage rate, (A.) 519 ft³/hr, by the AP-42 NOx emission factor (Table 1.4-1), (B.) 0.0001 lbs/ft³, then multiply the result by the maximum number of operating hours, (C.) 5,250 hours per year.

44. Emission Limitation -
0.01 pound of CO per hour

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly natural gas usage rate, (A.) 519 ft³/hr, by the AP-42 CO emission rate (Table 1.4-1), (B.) 0.000021 lbs/ft³.

45. Emission Limitation -
0.03 tons CO per year

Applicable Compliance Method -

Compliance shall be determined by multiplying the maximum hourly natural gas usage rate, (A.) 519 ft³/hr, by the AP-42 NOx emission factor (Table 1.4-1), (B.) 0.0001 lbs/ft³, then multiply the result by the maximum number of operating hours, (C.) 5,250 hours per year.

46. Emission Limitation -
Visible emissions shall not exceed 20% opacity for a 6-minute average.

Applicable Compliance Method -

Compliance shall be determined through visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in USEPA Method 9.

E. Miscellaneous Requirements:

This permit allows the use of ammonia (NH₃) specified by the permittee in the application for PTI number 08-3840. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the NH₃ emission limitation(s) specified in this permit was established in accordance with the Ohio EPA's "Air Toxics Policy" and is based on both data and the design parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for NH₃ based on the Screen3 model and a comparison of the predicted 1 hour maximum ground-level concentration to the MAGLC. The following summarizes the results of the modeling for each pollutant:

Pollutant: NH₃

TLV (ug/m³): 17,000.0

Maximum Hourly Emission Rate (lbs/hr): 0.37

Predicted 1 Hour Maximum Ground-Level Concentration at the Fenceline (ug/m³): 7.5

Maximum Acceptable Ground-Level Concentration (MAGLC) (ug/m3): 170.0

Any of the following changes may be deemed a "modification" to the emissions unit and, as such, prior notification to and approval from the appropriate Ohio EPA District Office or local air agency are required, including the possible issuance of modifications to PTI number 08-3840 and the operating permit:

- (a) Any changes in the composition of the nitriding 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 specified in the above table.
- (b) Any change to the emissions unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height) that would result in an exceedance of any MAGLC specified in the above table.
- (c) Any change to the emissions unit or its method of operation that would either require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01.
- (d) Any change in the composition of the materials employed, or use of new materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" (HAPS) as defined in OAC rule 3745-77-01(V).

Prepared by: Jim Pellegrino
Date: April 9, 1998