Facility ID: 0634000110 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

Facility ID: 0634000110 Emissions Unit ID: P002 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

   (a) None.

2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

   (a) None.

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

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P002 - 1340 HP (10.8 MMBtu) Caterpillar natural gas fired engine G 3516 LE AFR, with Miratech catalytic converter model IQ-26-12-H1	OAC rule 3745-31-05(A)(3) (PTI 06-08280, issued 5/15/07)	Emissions shall not exceed: 4.43 pounds per hour (lbs/hr) and 19.41 tons per year (tpy) of nitrogen oxides (NOx); 5.0 pounds per day (lbs/day) and 0.91 tons per year (tpy) of formaldehyde. See Section A.2.c. below. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-11(B)(5)(b) and 3745-17-07(A).
	OAC rule 3745-31-05(A)(3)(b)	See Section A.2.b. below.
	ORC rule 3704.03(T)(4)	See Section A.2.a. below.
	OAC rule 3745-17-07(A)(1)	Visible emissions from any stack shall not exceed 20% opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions (PE) shall not exceed 0.062 lb/million Btu actual heat input.
	OAC rule 3745-18-06(G)	Exempt. See Section A.2.d below.
	OAC rule 3745-21-08(B)	See Section A.2.e below.

2. **Additional Terms and Conditions**

   (a) The Best Available Technology (BAT) requirements under 3745-31-05(A)(3) do not apply to the Volatile Organic Compound (VOC) or the particulate emissions from this air contaminant source since the uncontrolled potential to emit for VOC and particulate emissions is less than ten tons per year.
   Permit to Install 06-08280 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purposes of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3).

      i. catalytic converter for CO

In order to demonstrate compliance with the "Toxic Air Contaminant Statute", the director has establish, per ORC 3704.03(F)(4)(c), a limit for formaldehyde, which shall not exceed 5.0 pound(s) per day. This daily allowable emissions rate was calculated by multiplying the approved daily operating schedule submitted in the permit application, by the emission rate modeled (to determine the ground level concentration).
This emissions unit is exempt from the requirements of OAC rule 3745-18-06(G) pursuant to OAC rule 3745-18-06(B).
The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B).

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule

3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

B. **Operational Restrictions**

1. The permittee shall burn only natural gas in this emissions unit.

C. **Monitoring and/or Record Keeping 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 permit to install for these emissions unit(s) P001 and P002 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
   the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

   i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or

   ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
This standard was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

(TLV/10)(8/x)(5/y) = 4 (TLV/xy) = MAGLC
The following summarizes the results of dispersion modeling for each emission unit, for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: formaldehyde

TLV (mg/m3): 0.272

Maximum Hourly Emission Rate (lbs/hr): 0.207

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 5.69 ug/m3

MAGLC (ug/m3): 6.47 ug/m3

The permittee, having demonstrated that emissions of formaldehyde, from emissions unit(s) P001 and P002, is estimated to be equal or greater than eighty per cent, but less than 100 per cent of the maximum acceptable ground level concentration (MAGLC), shall not operate the emissions unit(s) at a rate that would exceed the daily emissions rate, process weight rate, and/or restricted hours of operations, as allowed in this permit; and any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

3. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
   If the permittee determines that the "Toxic Air Contaminant Statute" 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 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.
   changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
   changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC 3745-114-01, that was modeled from the initial (or last) application; and
   physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

4. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

5. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

D. **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 quarterly deviation reports, to the appropriate Ohio EPA District Office or local air agency, documenting any exceedance of the daily limitation on toxic air emissions or any deviation from a restriction on the process or hours of operation, as established by the director in order to maintain any toxic air contaminant below its MAGLC. The permittee shall also report any changes made, during the calendar quarter, to a parameter or value entered into the dispersion model that demonstrate compliance with the "Toxic Air Contaminant Statute". These quarterly reports shall be submitted by April 30, July 31, October 31, and January 31, and shall cover the records for the previous calendar quarters.

E. **Testing Requirements**

1. Compliance with the emissions limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
Emissions Limitation:
Emissions shall not exceed 4.43 lbs/hr NOx.

Applicable Compliance Method:
If required, nitrogen oxides emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources".
Emissions Limitation:
Emissions shall not exceed 19.41 tpy of NOx.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the maximum hourly emission rate (4.43 lbs/hr) by the maximum annual hours of operation (8,760 hours) and then dividing by 2,000 lbs/ton.
Emissions Limitation:
Emissions shall not exceed 5.0 pounds per day (lbs/day) and 0.91 tons per year (tpy) of formaldehyde.

Applicable Compliance Method:
Compliance shall be demonstrated by multiplying the emission factor for formaldehyde provided by the manufacturer in PTI application 06-08280 received February 23, 2007 (0.000617 lb/ HP-HR) by the maximum output capacity (1340 HP) and then by 75% control efficiency; and, then multiplying this by the maximum annual hours of operation (8760 hrs/yr) and the conversion 1 ton/2000 lbs.
Emission Limitation:
Particulate emissions (PE) shall not exceed 0.062 lb/million Btu of actual heat input.

Applicable Compliance Method:
Compliance shall be based upon an emission factor of 0.0099 lb/million Btu. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.2, Table 3.2-2 (7/00).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).
Emissions Limitation:
Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
If required, visible particulate emissions shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources" as such appendix existed on July 1, 2002.

F. **Miscellaneous Requirements**

1. None