



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

3/10/2009

TERESA HUMMELL
CARDINGTON YUTAKA TECHNOLOGIES
575 W MAIN ST
CARDINGTON, OH 43315

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0159000140
Permit Number: P0103770
Permit Type: OAC Chapter 3745-31 Modification
County: Morrow

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate ("PTIO") which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully.

Ohio EPA maintains a document entitled "Frequently Asked Questions about the PTIO". The document can be downloaded from the DAPC Web page, www.epa.state.oh.us/dapc, from the "Permits" link. This document contains additional information related to your permit, such as what activities are covered under the PTIO, who has enforcement authority over the permit and Ohio EPA's authorization to inspect your facility and records. Please contact the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469 if you need assistance.

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Central District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page www.epa.state.oh.us/dapc.

Sincerely,

Michael W. Ahern
Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-CDO

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

FINAL

**Air Pollution Permit-to-Install and Operate
for
CARDINGTON YUTAKA TECHNOLOGIES**

Facility ID: 0159000140
Permit Number: P0103770
Permit Type: OAC Chapter 3745-31 Modification
Issued: 3/10/2009
Effective: 3/10/2009
Expiration: 3/10/2014



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
CARDINGTON YUTAKA TECHNOLOGIES

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Final Permit-to-Install and Operate
Permit Number: P0103770
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Authorization

Facility ID: 0159000140
Application Number(s): A0035767
Permit Number: P0103770
Permit Description: Chapter 31 modification for EU B003 and B004 to include synthetic minor restrictions for gasoline.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$400.00
Issue Date: 3/10/2009
Effective Date: 3/10/2009
Expiration Date: 3/10/2014
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15
This document constitutes issuance to:

CARDINGTON YUTAKA TECHNOLOGIES
575 W MAIN ST
CARDINGTON, OH 43315

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Final Permit-to-Install and Operate
Permit Number: P0103770
Facility ID: 0159000140
Effective Date: 3/10/2009

Authorization (continued)

Permit Number: P0103770
 Permit Description: Chapter 31 modification for EU B003 and B004 to include synthetic minor restrictions for gasoline.

Permits for the following emissions unit(s) or groups of emissions units are in this document as indicated below:

Emissions Unit ID:	B003
Company Equipment ID:	Engine Dynamometer
Superseded Permit Number:	01-08905
General Permit Category and Type:	Not Applicable
 Emissions Unit ID:	 B004
Company Equipment ID:	Anechioc Dynamometer
Superseded Permit Number:	01-12146
General Permit Category and Type:	Not Applicable



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Final Permit-to-Install and Operate

Permit Number: P0103770

Facility ID: 0159000140

Effective Date: 3/10/2009

A. Standard Terms and Conditions



1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.



If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Central District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the



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change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



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Final Permit-to-Install and Operate

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B. Facility-Wide Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

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Facility ID: 0159000140

Effective Date: 3/10/2009

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



State of Ohio Environmental Protection Agency
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Final Permit-to-Install and Operate

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Effective Date: 3/10/2009

C. Emissions Unit Terms and Conditions



1. B003, Engine Dynamometer

Operations, Property and/or Equipment Description:

350 HP Engine Dynamometer vented to a thermal oxidizer.

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

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

a. b)(2)c, f)(1)b and f)(1)c

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

a. b)(1)c, c)(1), c)(2), c)(3), d)(1), d)(2), d)(3), e)(1), e)(2) and f)(1)a

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii)	See b)(2)a and b)(2)b below.
b.	OAC rule 3745-31-05(F)	See b)(2)c below.
c.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V)	Carbon Monoxide (CO) emissions shall not exceed 4.73 tons per rolling, 12-month period. See c)(2) below.
d.	OAC rule 3745-17-07(A)(1)	See Section b)(2)d below.
e.	OAC rule 3745-17-11(B)(1)	See b)(2)e below.
f.	OAC rule 3745-18-06	See b)(2)f below.
g.	OAC rule 3745-21-08	See b)(2)g below.

(2) Additional Terms and Conditions

a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3) do not apply to the particulate emissions (PE) and sulfur dioxide (SO₂) emissions from this air contaminant source since the potential to emit for each of these pollutants is less than ten tons per year (TPY).



- b. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO emissions from this air contaminant source because the calculated annual emission rate for CO is less than 10 TPY taking into account the federally enforceable rule limit of 4.73 tons per rolling, 12-month period under OAC rule 3745-31-05(D).
- c. Permit to Install and Operate P0103770 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).
 - i. All emissions from this emissions unit shall be vented to a regenerative thermal oxidizer with a minimum destruction efficiency of 96%.
 - ii. Organic Compound (OC) emissions from this emissions unit shall not exceed 0.18 TPY.
 - iii. Nitrogen Oxides (NOx) emissions from this emissions unit shall not exceed 3.06 TPY.
- d. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11, does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- f. OAC rule 3745-18-06(B) exempts stationary internal combustion engines which have rated heat input capacities equal to, or less than, 10 MMBtu/hr from the sulfur dioxide emission limit in OAC rule 3745-18-06(G). This emissions unit has a rated heat input of 3.75 MMBtu/hr.
- g. The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08.

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.

c) Operational Restrictions

- (1) The permittee shall burn only gasoline in this emissions unit.



- (2) The maximum annual gasoline throughput for this emissions unit shall not exceed 60,000 gallons based upon a rolling, 12-month summation of the gasoline throughput.
 - (3) All of the OC emissions from this emissions unit shall be vented to a thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation. The permittee shall record the combustion temperature on an hourly basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s). The acceptable temperature setting shall be based upon the manufacturer=s specifications until such time as any required emission testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than 3 years.
 - (2) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - a. the date and time the deviation began;
 - b. the magnitude of the deviation at that time;
 - c. the date the investigation was conducted;
 - d. the name(s) of the personnel who conducted the investigation; and
 - e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the temperature readings immediately after the corrective action was implemented; and



- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (3) The permittee shall maintain monthly records of the following information for this emissions unit:

- a. the type and quantity of fuel burned, in gallons;
- b. the CO emissions, in tons;
- c. the OC emissions, in tons;
- d. the NOx emissions, in tons;
- e. the rolling, 12-month fuel throughput, in gallons; and
- f. the rolling, 12-month CO emissions, in tons.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify any deviation or exceedance of a federally enforceable requirement contained in this permit to include:

- a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration;
- b. each period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;
- c. all deviations from the following restricted, federally enforceable emission limitation(s), operational restriction(s), and/or other control device operating parameter limitation(s) that restrict the pollutant's(s') Potential to Emit (PTE) and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. each day when a fuel other than gasoline was burned in this emissions unit



- ii. each rolling, 12-month period during which gasoline usage exceeded 60,000 gallons; and
- iii. each rolling, 12-month period during which CO emissions exceeded 4.73 tons.
- d. an identification of each incident of deviation described in Aa@, "b", or "c" (above) where a prompt investigation was not conducted;
- e. an identification of each incident of deviation described in Aa@, "b", or "c" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
- f. an identification of each incident of deviation described in "c" where prompt corrective action, that would bring the emissions unit(s) into compliance with any federally enforceable emission limitation(s), operational restriction(s), and/or other control device operating parameter limitation(s), was determined to be necessary and was not taken;
- g. an identification of each incident of deviation described in Aa@, "b", or "c" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
- h. the probable cause of each deviation;
- i. any corrective actions that were taken to remedy the deviations or prevent future deviations; and
- j. the level or magnitude of excursion above the acceptable restricted limitation(s), operational restriction(s), and/or control device parameter limitation(s) and the duration (number of hours and date) of each deviation/excursion.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the appropriate district office or local air agency).

The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions of this permit.

- (2) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the thermal oxidizer during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the



range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration;

- b. each period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;
- c. an identification of each incident of deviation described in Aa@ or "b" (above) where a prompt investigation was not conducted;
- d. an identification of each incident of deviation described in Aa@ or "b" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and
- e. an identification of each incident of deviation described in Aa@ or "b" where proper records were not maintained for the investigation and/or the corrective action(s).

Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

CO emissions shall not exceed 4.73 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements in d)(3) and the following equation:

$$CO = [(G * E_f) * (1 - DE)] / 2000$$

where,

CO = Carbon Monoxide emissions rate (tons per month)

G = Actual monthly gasoline throughput (gallons)

E_f = Emissions factor in pounds of CO per gallon of gasoline burned (3.94)

DE = Destruction Efficiency of the regenerative thermal oxidizer (96.0%)



Compliance with the rolling, 12-month CO emissions limitation shall be demonstrated by summing the monthly CO emissions at the end of each 12-month period as required by the recordkeeping requirements in d)(3).

If required, compliance with the CO emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 10.

b. Emissions Limitation:

OC emissions shall not exceed 0.18 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements in d)(3) and the following equation:

$$OC = [(G * E_f) * (1-DE)] / 2000$$

where,

OC = Organic Compound emissions rate (tons per month)

G = Actual monthly gasoline throughput (gallons)

E_f = Emissions factor in pounds of OC per gallon of gasoline burned (0.148)

DE = Destruction Efficiency of the regenerative thermal oxidizer (96.0%)

Compliance with the annual OC emissions limitation shall be demonstrated by summing the monthly OC emissions at the end of each calendar year.

If required, compliance with the OC emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 18, 25 or 25A.

c. Emissions Limitation:

NO_x emissions shall not exceed 3.06 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements in d)(3) and the following equation:

$$NO_x = (G * E_f) / 2000$$

where,

NO_x = Nitrogen Oxides emissions rate (tons per month)

G = Actual monthly gasoline throughput (gallons)

E_f = Emissions factor in pounds of NO_x per gallon of gasoline burned (0.102)



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Compliance with the annual NO_x emissions limitation shall be demonstrated by summing the monthly NO_x emissions at the end of each calendar year.

If required, compliance with the NO_x emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 7.

g) Miscellaneous Requirements

- (1) None.



2. B004, Anechoic Dynamometer

Operations, Property and/or Equipment Description:

350 HP Engine dynamometer vented to a thermal oxidizer or controlled by a catalytic converter when operated with the anechoic chamber.

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

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

a. b)(2)c, f)(1)c and f)(1)d

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

a. b)(1)d, c)(1), c)(2), c)(3), c)(4), d)(1), d)(2), d)(3), e)(1), e)(2) and f)(1)b

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)	Carbon Monoxide (CO) emissions shall not exceed 57.68 lbs/hr. See b)(2)a below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)b below.
c.	OAC rule 3745-31-05(F)	See b)(2)c below.
d.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V)	CO emissions shall not exceed 57.68 tons per rolling, 12-month period. See c)(2) below.
e.	OAC rule 3745-17-07(A)(1)	See Section b)(2)d below.
f.	OAC rule 3745-17-11(B)(1)	See b)(2)e below.
g.	OAC rule 3745-18-06	See b)(2)f below.
h.	OAC rule 3745-21-08	See b)(2)g below.



(2) Additional Terms and Conditions

- a. The hourly CO limitation for this emissions unit was established to reflect the potential to emit. Therefore it is not necessary to develop recording keeping and/or reporting requirements to ensure compliance with this limit.
- b. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3) do not apply to the particulate emissions (PE) and sulfur dioxide (SO₂) emissions from this air contaminant source since the potential to emit for each of these pollutants is less than ten tons per year (TPY).
- c. Permit to Install and Operate P0103770 for this air contaminant source takes into account the following voluntary restrictions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).
 - i. All emissions from this emissions unit shall be vented to a catalytic converter when the anechoic chamber is in use or to a regenerative thermal oxidizer with a minimum destruction efficiency of 96% when the anechoic chamber is not in use.
 - ii. Organic Compound (OC) emissions from this emissions unit shall not exceed 4.44 TPY.
 - iii. Nitrogen Oxides (NO_x) emissions from this emissions unit shall not exceed 3.06 TPY.
- d. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11, does not apply because the process weight, as defined in OAC rule 3745-17-01(B)(14), is equal to zero.
- f. OAC rule 3745-18-06(B) exempts stationary internal combustion engines which have rated heat input capacities equal to, or less than, 10 MMBtu/hr from the sulfur dioxide emission limit in OAC rule 3745-18-06(G). This emissions unit has a rated heat input of 3.75 MMBtu/hr.
- g. The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08.

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.

c) Operational Restrictions

- (1) The permittee shall burn only gasoline in this emissions unit.
- (2) The maximum annual gasoline throughput for this emissions unit shall not exceed 60,000 gallons based upon a rolling, 12-month summation of the gasoline throughput.
- (3) All of the OC emissions from this emissions unit shall be vented to a thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation and venting to the thermal oxidizer.
- (4) The catalytic converters utilized by this emissions unit for the purpose of controlling CO emissions shall operate for not more than 100 hours before being replaced.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation and venting to the thermal oxidizer. The permittee shall record the combustion temperature on an hourly basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer=s recommendations, instructions, and operating manual(s). The acceptable temperature setting shall be based upon the manufacturer=s specifications until such time as any required emission testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than 3 years.
- (2) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - a. the date and time the deviation began;
 - b. the magnitude of the deviation at that time;
 - c. the date the investigation was conducted;
 - d. the name(s) of the personnel who conducted the investigation; and
 - e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;



- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the temperature readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (3) The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the hours of operation for each catalytic converter;
 - b. the type and quantity of fuel burned when emissions were directed to the anechoic chamber and a catalytic converter, in gallons;
 - c. the type and quantity of fuel burned when emissions were directed to the regenerative thermal oxidizer, in gallons;
 - d. the CO emissions, in tons;
 - e. the OC emissions, in tons;
 - f. the NOx emissions, in tons;
 - g. the rolling, 12-month fuel throughput, in gallons; and
 - h. the rolling, 12-month CO emissions, in tons.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify any deviation or exceedance of a federally enforceable requirement contained in this permit to include:
 - a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the



range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration, when the emissions unit(s) is/are in operation and venting to the thermal oxidizer;

- b. each period of time (start time and date, and end time and date) during which emissions from this emissions unit were not directed to the anechoic chamber and controlled by a catalytic converter or directed to and controlled by a regenerative thermal oxidizer;
- c. all deviations from the following restricted, federally enforceable emission limitation(s), operational restriction(s), and/or other control device operating parameter limitation(s) that restrict the pollutant's(s') Potential to Emit (PTE) and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. each day when a fuel other than gasoline was burned in this emissions unit
 - ii. each rolling, 12-month period during which gasoline usage exceeded 60,000 gallons;
 - iii. each period of time during which a catalytic converter with more than 100 hours of operation was utilized; and
 - iv. each rolling, 12-month period during which CO emissions exceeded 57.68 tons.
- d. an identification of each incident of deviation described in Aa@, "b", or "c" (above) where a prompt investigation was not conducted;
- e. an identification of each incident of deviation described in Aa@, "b", or "c" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
- f. an identification of each incident of deviation described in "c" where prompt corrective action, that would bring the emissions unit(s) into compliance with any federally enforceable emission limitation(s), operational restriction(s), and/or other control device operating parameter limitation(s), was determined to be necessary and was not taken;
- g. an identification of each incident of deviation described in Aa@, "b", or "c" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
- h. the probable cause of each deviation;
- i. any corrective actions that were taken to remedy the deviations or prevent future deviations; and



- j. the level or magnitude of excursion above the acceptable restricted limitation(s), operational restriction(s), and/or control device parameter limitation(s) and the duration (number of hours and date) of each deviation/excursion.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the appropriate district office or local air agency).

The reports contained in this permit shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions of this permit.

- (2) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the thermal oxidizer and catalytic converter during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not directed to the anechoic chamber and controlled by a catalytic converter or directed to and controlled by a regenerative thermal oxidizer;
 - b. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration while emissions were being vented to the RTO;
 - c. each period of time (start time and date, and end time and date) when a catalytic converter with more than 100 hours of operation was utilized;
 - d. an identification of each incident of deviation described in Aa@, "b" or "c" (above) where a prompt investigation was not conducted;
 - e. an identification of each incident of deviation described in Aa@, "b" or "c" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - f. an identification of each incident of deviation described in Aa@, "b" or "c" where proper records were not maintained for the investigation and/or the corrective action(s).

Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.



f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

CO emissions shall not exceed 57.68 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated by the following equation:

$$CO = (M * E_f) * (1 - DE)$$

where,

CO = Carbon Monoxide emissions rate (pounds per hour)

M = Maximum hourly gasoline consumption rate (30 gallons)

E_f = Emissions factor in pounds of CO per gallon of gasoline burned (3.94)

DE = Destruction Efficiency of the catalytic converter (51.2%)

If required, compliance with the CO emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 10.

b. Emissions Limitation:

CO emissions shall not exceed 57.68 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements in d)(3) and the following equation:

$$CO = [(G * E_f) * (1 - DE)] / 2000$$

where,

CO = Carbon Monoxide emissions rate (tons per month)

G = Actual monthly gasoline throughput (gallons)

E_f = Emissions factor in pounds of CO per gallon of gasoline burned (3.94)

DE = Destruction Efficiency of the catalytic converter (51.2%)

Compliance with the rolling, 12-month CO emissions limitation shall be demonstrated by summing the monthly CO emissions at the end of each 12-month period as required by the recordkeeping requirements in d)(3).



If required, compliance with the CO emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 10.

c. Emissions Limitation:

OC emissions shall not exceed 4.44 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements in d)(3) and the following equation:

$$OC = (G * E_f) / 2000$$

where,

OC = Organic Compound emissions rate (tons per month)

G = Actual monthly gasoline throughput (gallons)

E_f = Emissions factor in pounds of OC per gallon of gasoline burned (0.148)

Compliance with the annual OC emissions limitation shall be demonstrated by summing the monthly OC emissions at the end of each calendar year.

If required, compliance with the OC emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 18, 25 or 25A.

d. Emissions Limitation:

NOx emissions shall not exceed 3.06 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the recordkeeping requirements in d)(3) and the following equation:

$$NOx = (G * E_f) / 2000$$

where,

NOx = Nitrogen Oxides emissions rate (tons per month)

G = Actual monthly gasoline throughput (gallons)

E_f = Emissions factor in pounds of NOx per gallon of gasoline burned (0.102)

Compliance with the annual NOx emissions limitation shall be demonstrated by summing the monthly NOx emissions at the end of each calendar year.

If required, compliance with the NOx emissions limitation shall be demonstrated according to 40 CFR Part 60, Appendix A, method 7.



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g) Miscellaneous Requirements

(1) None.