John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

2/12/2013

Certified Mail

Mr. Jeremy DeBenedictis
Liberation Capital Vadxx Cleveland, LLC
8166 Versailles Place
Macedonia, OH 44056

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1318008787
Permit Number: P0112885
Permit Type: Administrative Modification
County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00, made payable to “Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General’s Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael W. Ahern

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

Cc: CDAQ

FINAL

Division of Air Pollution Control
Permit-to-Install and Operate
for
Liberation Capital Vadxx Cleveland, LLC

Facility ID:	1318008787
Permit Number:	P0112885
Permit Type:	Administrative Modification
Issued:	2/12/2013
Effective:	2/12/2013
Expiration:	10/17/2022

Division of Air Pollution Control
Permit-to-Install and Operate
for
Liberation Capital Vadxx Cleveland, LLC

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Authorization

Facility ID:	1318008787
Application Numbers):	M0002092
Permit Number:	P0112885
Permit Description:	Administrative modification of PTIO P0110369 (issued final 10/17/2012) for emissions units P001 and P002 which are "waste-to-fuel" reclamation process lines converting plastics and rubber into synthetic crude oil in a reactor (pyrolysis/thermolysis) controlled with wet scrubber, activated carbon, and condenser. This modification is needed to change the facility name and address.
Permit Type:	Administrative Modification
Permit Fee:	$750.00
Issue Date:	2/12/2013
Effective Date:	2/12/2013
Expiration Date:	10/17/2022

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Liberation Capital Vadxx Cleveland, LLC
7901 St. Clair Ave.
Cleveland, OH 44103

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

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

Scott J. Nally
Director

Authorization (continued)

Permit Number: P0112885
Permit Description: Administrative modification of PTIO P0110369 (issued final 10/17/2012) for emissions units P001 and P002 which are "waste-to-fuel" reclamation process lines converting plastics and rubber into synthetic crude oil in a reactor (pyrolysis/thermolysis) controlled with wet scrubber, activated carbon, and condenser. This modification is needed to change the facility name and address.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name: Process Units: P001 & P002

Emissions Unit ID:	**P001**
Company Equipment ID:	Rotary Reactor Line 1
Superseded Permit Number:	P0110369
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P002**
Company Equipment ID:	Rotary Reactor Line 2
Superseded Permit Number:	P0110369
General Permit Category andType:	Not Applicable

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. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement.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 takenby 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 Cleveland Division of Air Quality 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[1] 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 emissions 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.

[1]Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

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 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.

B. Facility-Wide Terms and Conditions

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.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Process Units: P001 & P002

EU ID	Operations, Property and/or Equipment Description
P001	"waste-to-fuel" reclamation process converting plastics and rubber into synthetic crude oil with extruder feeding a reactor (pyrolysis/thermolysis) controlled with wet scrubber, activated carbon, and condenser with process heater using recovered non-condensable process gas or natural gas as fuel
P002	"waste-to-fuel" reclamation process converting plastics and rubber into synthetic crude oil with extruder feeding a reactor (pyrolysis/thermolysis) controlled with wet scrubber, activated carbon, and condenser with process heater using recovered non-condensable process gas or natural gas as fuel

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. 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.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. Emissions from each unit (P001/P002) 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.	OAC rule 3745-31-05(A)(3), as effective 11/30/01 PTIO P0110369 issued final 10/17/2012	Nitrogen oxides (NOx) emissions shall not exceed 1.15 pounds per hour, and 5.03 tons per year. Particulate emissions (PE) shall not exceed 0.22 pound per hour, and 0.95 ton per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Dioxin emissions from process heater stack shall not exceed 1.30 E^{-05}mg/m^3. Visible PE from the process heater stack shall not exceed 10 percent opacity as a six-minute average. Fugitive emissions of volatile organic compounds (VOC) shall not exceed 5.02 tons per year. See b)(2)a below.
b.	ORC 3704.03(T)	Carbon monoxide (CO) emissions shall not exceed 2.59 pounds per hour, and 11.3 tons per year.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the process heater stack shall not exceed 20 percent opacity as a six-minute average. This limit applies after the SIP is approved as noted below in b)(2)a. removing the BAT limits.
e.	OAC rule 3745-17-10(B)	Particulate emissions shall not exceed 0.020 lb/MMBtu. This emission limit applies after the SIP is approved as noted below in b)(2)a. removing the BAT limits.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by state regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has yet been approved by 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 3745-31-05, the requirement to satisfy BAT still exists as part of the

federally-approves SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, NOx, dioxin and volatile organic compound (VOC) emissions from these air contaminant sources since the uncontrolled potential to emit for NO_x, dioxin, PE and VOC emissions are each less than 10 tons per year.

c. This emissions unit and all associated equipment and grounds shall be designed, operated, and maintained so as to prevent the emission of objectionable odors.

c) Operational Restrictions

(1) The process heater shall be equipped with low-NOx burners.

(2) The process heater shall be limited to combusting natural gas and/or recovered non-condensable process gas.

(3) The feedstock for this emissions unit shall be limited to shredded tires (2-inch nominal shreds) and refuse derived / end of life or decontaminated plastics. Plastics types which have been determined to be an acceptable feedstock include: Materials Recovery Facility (MRF) plastics, industrial plastics, and decontaminated plastics. Decontaminated plastics shall be limited to less than 2,000 pounds per day, evenly distributed as much as possible, of the feedstock stream. All materials shall be unloaded inside the building.

(4) The recovered non-condensable process gas that is generated by this emissions unit shall be vented to the flame zone of the process heater as the primary fuel or with the use of supplemental natural gas at all times the emissions unit is in operation. The recovered non-condensable process gas produced shall not be vented directly into the atmosphere except under a malfunction situation in accordance with OAC rule 3745-15-06(B).

(5) The extruder shall be vented to the process scrubber at all times the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records of the following information for this emissions unit:

a. the quantity of each type of waste plastic material processed, in pounds or tons;

b. the quantity of shredded tires processed, in pounds or tons;

c. the quantity of synthetic crude oil produced; in gallons; and

d. the total number of hours the emissions unit was in operation.

(2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall be maintained at or above the liquid flow rate established during the most recent emission test that demonstrated the emissions unit was in compliance.

(3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range for the pH of the scrubber liquid shall be established during the most recent emission test that demonstrated the emissions unit was in compliance. The acceptable range shall be the average pH over the three test runs plus or minus one (1).

(4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute), and the scrubber liquid pH during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid's pH and flow rate on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) 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 parameters within the acceptable range, or at or above the minimum 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 the 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 flow rate and pH 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.

These range(s) and/or limit(s) for the liquid flow rate and pH are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (Cleveland DAQ). The permittee may request revisions to the permitted range or limit for the liquid flow rate or pH based upon information obtained during future performance tests for these emissions units. In addition, approved revisions to the range or 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.

(5) The permittee shall develop and implement a leak detection and repair program for the process unit and associated pipes, ductwork, connectors, valves/flanges, pumps and compressors to assure that they are leak free and vapor tight. The program shall meet the operational, monitoring and record keeping requirements of this permit.

(6) The process shall be confirmed to be free of leaks at the cold start up after completion of the planned maintenance according to manufacturer recommendations.

(7) The permittee shall install an ambient VOC monitoring system to provide continuous monitoring of ambient levels that could indicate a leak in a specific zone. When a leak is indicated in a zone, the following procedures shall be performed:

a. each component in the designated leak zone shall be evaluated using a properly calibrated analyzer or sight, sound, and smell;

b. when a leak is confirmed (> 10,000 ppmv), an immediate attempt must be made to repair the component. Components that cannot be immediately repaired must be tagged and logged, noting the date of the identified leak;

c. each leaking component (> 10,000 ppmv) must be repaired within 5 days;

d. if repair of the leaking component (> 10,000 ppmv) is delayed beyond the 5-day period, the permittee shall document the anticipated repair date and indicate justification for the delay in repair;

e. leaking components (> 10,000 ppmv) that are taken out of service by isolation and bypass, or process shutdown are considered to be in delay of repair; and

f. documentation shall be maintained summarizing the findings of each inspection performed for each leaking component (> 10,000 ppmv).

(8) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the average combustion temperature within the process heater firing chamber, during any 3-hour block of time when the emissions units is in operation, shall be no more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emission unit was in compliance. The process heater shall allow for a minimum of one-second retention time.

(9) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the firing chamber when the emissions units are in operation, including periods of startup and shutdown. The permittee shall record the combustion temperature on a continuous basis when 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), with any modifications deemed necessary by the permittee. These records shall be maintained at the facility for a period of no less than 3 years.

(10) Whenever the monitored 3-hour average combustion temperature within the firing chamber 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 firing chamber of the process heater 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 Cleveland DAQ. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance 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.

e) Reporting Requirements

(1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ 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. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.

(2) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the wet scrubber during the 12-month reporting period for these emissions units:

a. each period of time (start time and date, and end time and date) when the liquid flow rate or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

b. any period of time (start time and date, and end time and date) when the emissions units were in operation and the process emissions were not vented to the scrubber;

c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;

d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate and/or scrubber liquid pH into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” or “b” 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.

(3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the entire process during the 12-month reporting period for these emissions units:

a. all periods of time during which a required leak inspection was not performed, and the reason they were not performed;

b. the number of leaks (> 10,000 ppmv) found in the designated zone and the corresponding component IDs; and

c. the number of leaks (> 10,000 ppmv) not repaired within the required time, and the reason for the extended delay of repair.

(4) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the process heater during the 12-month reporting period for these emissions units:

a. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the process heater’s firing chamber was outside of the acceptable range;

b. any 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 process heater;

c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the process heater into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” or “b” 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.

(5) The permittee shall submit a leak detection and repair program plan, within 90 days of startup, to the Cleveland DAQ for approval. The plan shall include:

a. the methods and procedures used for detecting and repairing equipment leaks;

b. the procedure for pressure testing the system during cold start-ups;

c. sample documentation of any log sheets to be used in the program; and

d. all relevant information pertaining to the monitoring equipment specifications, the number of monitors employed, and the corresponding pieces of equipment being monitored in each zone.

Any subsequent changes to the plan shall be approved by the Cleveland DAQ.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible particulate emissions from the process heater stack shall not exceed 10 percent opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be demonstrated through the results of visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitation:

Visible particulate emissions from the process heater stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule (applies after SIP approved).

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

c. Emission Limitation:

CO emissions shall not exceed 2.59 pounds per hour, and 11.3 tons per year.

Applicable Compliance Method:

The hourly mass emission limitation shall be calculated according to the following formula for the worst case gaseous fuel, the process gas:

E = EF x M

EF = natural gas (84 lb/MMscf, AP 42 table 1.4-1) or site specific emission factor based on latest stack testing results (in lbs CO/ton waste processed)

M = maximum MMscf/hr of natural gas or tons waste processed per hour for process gas

If required, compliance with the hourly mass emission limitation shall be determined through stack testing in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly mass emission limitation by 8760 hours per year, and then dividing by 2000 lbs/ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation is maintained.

d. Emission Limitation:

NOx emissions shall not exceed 1.15 pounds per hour, and 5.03 tons per year.

Applicable Compliance Method:

The hourly mass emission limitation shall be calculated for the worst case gaseous fuel, according to the following formula:

E = EF x M

EF = natural gas (100 lb/MMscf, AP 42 table 1.4-1) or site specific emission factor based on latest stack testing results (in lbsNOx/ton processed).*

(* used 25% safety factor for AP 42 value to estimate emission limits from process gas)

M = maximum MMscf/hr of natural gas or tons waste processed/hr for process gas, based on stack test results

If required, compliance with the hourly mass emission limitation shall be determined through stack testing in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly mass emission limitation by 8760 hours per year, and then dividing by 2000 lbs/ton. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation is maintained.

e. Emission Limitation:

Particulate emissions shall not exceed 0.020 lb/MMBtu (this limit applies after the SIP is approved).

Applicable Compliance Method:

Compliance shall be based on the most recent stack test data or for natural gas calculated by dividing the emissions factor from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4 (7/98) by the heat content of natural gas as follows:

ER(lb/MMBtu) = (7.6 lbs PE/MMscf)/1,020 Btu/scf = 0.007 lb PE/MMBtu

If required, compliance with the lb PE/MMBtu mass emission limitation shall be determined through stack testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

f. Emission Limitation:

PE shall not exceed 0.22 pound per hour, and 0.96 ton per year.

Applicable Compliance Method:

The hourly mass emission limitation shall be calculated according to the following formula:

E = EF x M

EF = natural gas (7.6 lb/MMscf, AP 42 table 1.4-2) or site specific emission factor based on latest stack testing results (in lbsNOx/ton processed)

M = MMscf/hr of natural gas or tons processed/hr for process gas

If required, compliance with the hourly mass emission limitation shall be

determined through stack testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly mass emission limitation by 8760 hours per year, and then dividing by 2000. Therefore, compliance with the annual limitation shall be demonstrated if compliance with the hourly limitation is maintained.

g. Emission Limitation:

Dioxin emissions from process heater stack shall not exceed 1.30 E^{-05}mg/m^3.

Applicable Compliance Method:

If required, compliance with the hourly mass emission limitation shall be determined through stack testing in accordance with Methods 1-4 and 23 of 40 CFR Part 60, Appendix A.

h. Emission Limitation:

Fugitive emissions of VOC shall not exceed 5.02 tons per year.

Applicable Compliance Method:

The annual fugitive emission limitation was developed by using the emission factors contained in USEPA's "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017, November 1995).

(2) The permittee shall conduct, or have conducted, emission testing for either P001 or P002 in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for NOx, PE, opacity, and CO, and to verify negligible predicted emissions from VOC and HCl. The emission testing shall be performed at the stack outlet for the process heater.

c. The following test method(s) shall be employed:

forNOx, Method 7 of 40 CFR Part 60, Appendix A;

for PE, Method 5 of 40 CFR Part 60, Appendix A;

for CO, Method 10 of 40 CFR Part 60, Appendix A;

for VOC, Method 18 or 25A of 40 CFR Part 60, Appendix A;

forHCl, Method 26 of 40 CFR Part 60, Appendix A;

for dioxin, Method 23 of 40 CFR Part 60, Appendix A; and

for opacity, Method 9 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Cleveland DAQ. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission tests.

f. Personnel from the Cleveland DAQ shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the firing chamber of the process heater.

g. A comprehensive written report on the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

g) Miscellaneous Requirements

(1) None.