



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

7/17/2013

Mike Flaherty  
Emery Oleochemicals LLC  
4900 Este Avenue  
Cincinnati, OH 45232-1491

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 1431074278  
Permit Number: P0109124  
Permit Type: Administrative Modification  
County: Hamilton

Certified Mail

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
Yes	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. 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 PTI 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](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/dapc/pemitsurvey.aspx](http://www.epa.ohio.gov/dapc/pemitsurvey.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](http://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 Southwest Ohio Air Quality Agency at (513)946-7777 or 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: U.S. EPA  
SWOQA; Indiana; Kentucky



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Emery Oleochemicals LLC**

Facility ID:	1431074278
Permit Number:	P0109124
Permit Type:	Administrative Modification
Issued:	7/17/2013
Effective:	7/17/2013





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Emery Oleochemicals LLC

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**Final Permit-to-Install**  
 Emery Oleochemicals LLC  
**Permit Number:** P0109124  
**Facility ID:** 1431074278  
**Effective Date:** 7/17/2013

## Authorization

Facility ID: 1431074278  
 Facility Description: All Other Miscellaneous Chemical Product and Preparation Manufacturing  
 Application Number(s): M0001474  
 Permit Number: P0109124  
 Permit Description: Administrative modification of multi-fuel boilers (B027, B042, B043, B044 and B045) to address changes in the compliance determination methodology.  
 Permit Type: Administrative Modification  
 Permit Fee: \$3,225.00  
 Issue Date: 7/17/2013  
 Effective Date: 7/17/2013

This document constitutes issuance to:

Emery Oleochemicals LLC  
 4900 Este Avenue  
 Cincinnati, OH 45232-1491

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

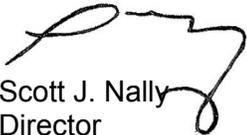
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Southwest Ohio Air Quality Agency  
 250 William Howard Taft Rd.  
 Cincinnati, OH 45219  
 (513)946-7777

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
 Scott J. Nally  
 Director



## Authorization (continued)

Permit Number: P0109124

Permit Description: Administrative modification of multi-fuel boilers (B027, B042, B043, B044 and B045) to address changes in the compliance determination methodology.

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

<b>Emissions Unit ID:</b>	<b>B027</b>
Company Equipment ID:	BOILER NO. 1
Superseded Permit Number:	14-05835
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B042</b>
Company Equipment ID:	Boiler No. 7
Superseded Permit Number:	14-05835
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B043</b>
Company Equipment ID:	Boiler No. 8
Superseded Permit Number:	14-05835
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B044</b>
Company Equipment ID:	Boler No. 9
Superseded Permit Number:	14-05835
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B045</b>
Company Equipment ID:	Boiler No. 10
Superseded Permit Number:	14-05835
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install**  
Emery Oleochemicals LLC  
**Permit Number:** P0109124  
**Facility ID:** 1431074278  
**Effective Date:** 7/17/2013

## **A. Standard Terms and Conditions**



## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.



- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Southwest Ohio Air Quality Agency.



- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Southwest Ohio Air Quality Agency. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Southwest Ohio Air Quality Agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Southwest Ohio Air Quality Agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## **6. Compliance Requirements**

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.



- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Southwest Ohio Air Quality Agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

## **8. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

## **9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Southwest Ohio Air Quality Agency.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have



been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Southwest Ohio Air Quality Agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

## **10. Applicability**

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

## **11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" 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).



- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## **12. Permit-To-Operate Application**

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

## **13. Construction Compliance Certification**

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

## **14. Public Disclosure**

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



**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

**18. Risk Management Plans**

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

**19. Title IV Provisions**

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



**Final Permit-to-Install**  
Emery Oleochemicals LLC  
**Permit Number:** P0109124  
**Facility ID:** 1431074278  
**Effective Date:** 7/17/2013

## **B. Facility-Wide Terms and Conditions**



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.
2. The permittee shall ensure that any CAIR NO<sub>x</sub>, SO<sub>2</sub>, or NO<sub>x</sub> ozone season units comply with the requirements of OAC 3745-109, which includes submitting timely permit applications. The permittee shall ensure that the affected emissions units comply with those requirements as outlined in the permit application submitted as required by OAC rules 3745-109-03, 109-10 and 109-16 for the affected emissions units.
3. Clean Air Interstate Rule – OAC Chapter 3745-109.
  - a) Facility Code – 1431074278.
    - (1) B027

Note: Ohio EPA DAPC completed rule amendments for OAC Chapter 3745-14, specifically, OAC rule 3745-14-01 and OAC rule 3745-14-06, which facilitated the transition of the affected units from OAC Chapter 3745-14 into the federal Clean Air Interstate Rule (CAIR) program which began with the 2009 control periods. This began the process of “sunsetting” the parts of OAC Chapter 3745-14 that were no longer needed as a result of Ohio’s CAIR rules (OAC Chapter 3745-109). On July 6, 2010, US EPA announced the proposed CAIR replacement rule, the “Transport Rule” as required by the original court vacatur of the federal CAIR program in July 2008. On August 21, 2012, the United States Court of Appeals for the D.C. Circuit vacated the Transport Rule and ordered EPA to continue administering CAIR until it promulgates a replacement.

4. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) Industrial, Commercial, and Institutional Boilers and Process Heaters: B027, B042, B043, B044, and B045. The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office or local air agency.



**Final Permit-to-Install**  
Emery Oleochemicals LLC  
**Permit Number:** P0109124  
**Facility ID:** 1431074278  
**Effective Date:** 7/17/2013

## **C. Emissions Unit Terms and Conditions**



**1. B027, BOILER NO. 1**

**Operations, Property and/or Equipment Description:**

Boiler #1, 683 mmBtu/hr boiler fired with natural gas, landfill gas, No. 4 fuel oil, alternative fuels or coal.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) 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 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 3745-31-02(A)(2) Voluntary Restriction to Avoid Non-Attainment New Source Review and Prevention of Significant Deterioration	The following emission limitations shall not be exceeded:  Particulate emissions (PE) shall not exceed 84.99 tons per year.**  Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 84.99 tons per year.**  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 1,733.59 tons per year.**  Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 966.27 tons per year.**  Carbon monoxide (CO) emissions shall not exceed 156.36 tons per year.**  Volatile organic compound (VOC) emissions shall not exceed 57.55 tons per year.**  Lead emissions shall not exceed 1.32 tons per year.**



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>**as a rolling, 12-month summation from emissions units B027, B042, B043, B044, and B045, combined.</p> <p>See b)(2)f.</p>
b.	OAC rule 3745-17-07(A)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60, Subpart D.
c.	OAC rule 3745-17-10(B)(1)	<p>Particulate emissions (PE) shall not exceed 0.020 lb PE/mmBtu of actual heat input when burning only natural gas.</p> <p>The particulate emission limitation established pursuant to OAC rule 3745-17-10(B)(1) is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart DDDDD. The permittee shall comply with all applicable emission limitations (including any less stringent emission limitation) after the compliance date in 40 CFR Part 63, Subpart DDDDD.</p>
d.	OAC rule 3745-17-10(C)(1)	<p>Particulate emissions (PE) shall not exceed 0.112 lb PE/mmBtu of actual heat input when burning landfill gas or alternative fuels.</p> <p>The particulate emission limitation established pursuant to OAC rule 3745-17-10(C)(1) is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart DDDDD. The permittee shall comply with all applicable emission limitations (including any less stringent emission limitation) after the compliance date in 40 CFR Part 63, Subpart DDDDD.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-18-06(A)	This emissions unit is exempt from OAC rule 3745-18-06(D) and OAC rule 3745-18-37 during any calendar day in which natural gas is the only fuel burned.
f.	OAC rule 3745-18-37(D)(2)	The requirements of this rule are equivalent to the requirements of 40 CFR 60 Subpart D when exclusively burning coal. The requirements of this rule are less stringent than the requirements of 40 CFR 60 Subpart D when burning fuels other than coal.
g.	OAC rule 3745-18-37(D)(4)	See c)(2)
h.	40 CFR Part 60, Subpart D	See b)(2)a. – e.
i.	40 CFR Part 63, Subpart DDDDD (40 CFR Part 63.7480-7575)  National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters	Applicable Emission Limits in Tables 1 and 2; Work Practice Standards in Table 3 and Operating Limits in Table 4 to Subpart DDDDD of 40 CFR Part 63.  Pursuant to 40 CFR 63.7495(b), the permittee shall comply with this subpart no later than January 31, 2016, except as provided in 63.6(i).
j.	40 CFR Part 63.1-15 (40 CFR 63.7565)	Table 10 to 40 CFR Part 63, Subpart DDDDD – Applicability of General Provisions (Subpart A) to Subpart DDDDD shows which parts of the General Provisions in 40 CFR Part 63.1-15 apply.

(2) Additional Terms and Conditions

- a. Visible particulate emission shall not exceed 20 percent opacity, as a six-minute average, except for one six-minute period per hour of not more than twenty seven percent opacity.
- b. Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed:
  - 1.20 lbs of SO<sub>2</sub>/mmBtu actual heat input from coal; and
  - 0.80 lb of SO<sub>2</sub>/mmBtu actual heat input from fuel oil.



When different fossil fuels are burned simultaneously in any combination, the applicable limitation shall be as specified in 40 CFR 60.43(b).

- c. Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed:

0.20 lb of NO<sub>x</sub>/mmBtu actual heat input from gaseous fossil fuels;

0.30 lb of NO<sub>x</sub>/mmBtu actual heat input from liquid fossil fuels; and

0.70 lb of NO<sub>x</sub>/mmBtu actual heat input from solid fossil fuels.

When different fossil fuels are burned simultaneously in any combination, the applicable limitation shall be as specified in 40 CFR 60.44(b).

- d. Particulate emissions (PE) shall not exceed:

0.10 lb of PE/mmBtu of actual heat input when burning fossil fuels.

- e. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

- f. The rolling, 12-month emission limitations do not apply to emissions unit B027 until the earliest new boiler startup date (i.e., the earliest startup date among emissions units B042, B043, B044, and B045).

c) Operational Restrictions

- (1) The ESP shall be in operation during all periods of emissions unit operation except during periods of startup and shutdown that are exempted pursuant to OAC rules 3745-17-07(A)(3)(a)(i) and 3745-17-07(A)(3)(b)(i), or during malfunction periods pursuant to OAC rule 3745-17-07(A)(3)(c).

- (2) A combined operating rate of six hundred ninety-five mmBtu per hour shall not be exceeded by emissions units B027, B014, and B015.

- (3) The quality of the coal burned in this emissions unit on an "as received" basis shall meet the following specifications:

- a. a combination of heat content and sulfur content that is sufficient to comply with the allowable SO<sub>2</sub> emission limitation of 1.2 lbs/mmBtu actual heat input; and

- b. a combination of heat content and ash content that is sufficient to comply with the allowable PE emission limitation of 0.10 lb/mmBtu actual heat input.



- (4) The quality of the No. 4 fuel oil burned in this emissions unit on an "as received" basis shall meet the following specification:

a combination of heat content and sulfur content that is sufficient to comply with the allowable SO<sub>2</sub> emission limitation of 0.8 lb/mmBtu actual heat input.

- (5) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[A_{B027} * 84 \text{ lb/mm}^2\text{scf} + B * 5.7 \text{ lb/mm}^2\text{scf} + C * 5 \text{ lb/kgal} + D * 0.5 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.082 \text{ lb/mm}^2\text{Btu} + G_{B042} + G_{B043} + G_{B044} + G_{B045}] / 2000 \text{ lb/ton} \leq 156.36 \text{ tons of CO per 12-month rolling period}$$

Where:

$A_{B027}$  = natural gas usage in B027 for the 12-month period (in mmscf);

B = landfill gas usage in B027, B042, B044 for the 12-month period (in mmscf);

C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);

D = coal usage in B027 for the 12-month period (in tons);

$E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);

$G_{B0XX}$  = CO emissions for B042, B043, B044 or B045 calculated based on the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) and the applicable emission factors for No. 2 fuel oil from AP-42 Section 1.3 (9/98), (in pounds);

$H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (6) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A_{B027} + A_{B045}) * 100 \text{ lb/mm}^2\text{scf} + B * 33 \text{ lb/mm}^2\text{scf} + C * 47 \text{ lb/kgal} + D * 10 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.30 \text{ lb/mm}^2\text{Btu} + F * H_5 * 0.07 \text{ lb/mm}^2\text{Btu} + G_{B042} + G_{B043} + G_{B044}] / 2000 \text{ lb/ton} \leq 966.27 \text{ tons of NO}_x \text{ per 12-month rolling period}$$

Where:



- $A_{B0XX}$  = natural gas usage in B027 or B045 for the 12-month period (in mmscf);
- B = landfill gas usage in B027 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = number 2 fuel oil usage in B045 for the 12-month period (in kgal);
- $G_{B0XX}$  =  $NO_x$  emissions for B042, B043, or B044 calculated based on data from  $NO_x$  CEMS for the 12-month period (in pounds);
- $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (9) = ester water, and (5) = No. 2 fuel oil] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, and mmBtu/kgal for No. 2 fuel oil)

The permittee shall maintain monthly records of the 12-month summation of fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (7) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A+B) * 5.5 \text{ lb/mmscf}] + (C + F_{B042} + F_{B043} + F_{B044} + F_{B045}) * 0.25 \text{ lb/kgal} + D * 0.06 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.0054 \text{ lb/mmBtu} / 2000 \text{ lb/ton} \leq 57.55 \text{ tons of VOC per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $F_{B0XX}$  = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal); and



$H_i$  = heat content of tallow sludge, glycerin residue, fatty alcohol residue and ester water [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in mmBtu/lb as determined in section d)(11) for B027.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (8) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T * (D * H_8) + C * (150 * S_7) \text{ lb/kgal} + (A + B) * 0.60 \text{ lb/mm}^3\text{scf} + (F_{B042} + F_{B043} + F_{B044} + F_{B045}) * (142 * S_5) \text{ lb/kgal} + 2 \text{ lb SO}_2\text{/lb of Sulfur} * (E_1 * S_1 + E_2 * S_2 + E_3 * S_3 + E_9 * S_9)] / 2000 \text{ lb/ton} \leq 1,733.59 \text{ tons of SO}_2 \text{ per 12-month rolling period}$$

Where:

- $A_{B0XX}$  = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- $B$  = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- $C$  = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- $D$  = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $F_{B0XX}$  = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- $H_i$  = heat content of fuels [(8) = coal] (in mmBtu/lb for in mmBtu/ton for coal);
- $S_i$  = sulfur content of each fuel (wt %) [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (7) = number 4 fuel oil and (9) = ester water]; and
- $T$  = stack test results for  $\text{SO}_2$  from most recent stack test for B027 (in lb/mmBtu).

The permittee shall maintain monthly records of the 12-month summation of the natural fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (9) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:



$$[T_{B027} * (E_{1,B027} * H_1 + E_{2,B027} * H_2 + E_{3,B027} * H_3 + E_{9,B027} * H_9 + C * H_7 + D * H_8)] + 7.6 \text{ lbs/mmscf} * (A + B) + 2 \text{ lbs/kgal} * (F_{B045} + F_{B044} + F_{B043} + F_{B042})/2000 \text{ lbs/ton} \leq 84.99 \text{ tons of PE/PM10 per 12-month rolling period}$$

Where:

- $A_{B0XX}$  = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- $B$  = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- $C$  = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- $D$  = coal usage in B027 for the 12-month period (in tons);
- $E_{i,B0XX}$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $F_{B0XX}$  = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (7) = number 4 fuel oil, (8) = coal and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/ton for coal and mmBtu/kgal for No. 4 fuel oil); and
- $T_{B027}$  = stack test results for PE and PM10 from most recent stack tests for B027 (in lb/mmBtu).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (10) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A + B) * 5.00E-04 \text{ lb/mmscf} + C * 1.51 \text{ E-03 lb/kgal} + D * H_8 * 5.07 \text{ E-04 lb/mmBtu} + F * H_5 * 9.00E-06 \text{ lb/mmBtu} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 9.00E-06 \text{ lb/mmBtu}]/2000 \text{ lb/ton} \leq 1.32 \text{ tons of lead per 12-month rolling period}$$

Where:

- $A$  = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- $B$  = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- $C$  = number 4 fuel oil usage in B027 for the 12-month period (in kgal);



- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = total number 2 fuel oil usage in B042, B043, B044, and B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuel [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (8) = coal and (9) = ester water] in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/kgal for No. 2 fuel oil and in mmBtu/ton for coal.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (11) The permittee shall fire emissions unit B027 with only the following fossil fuels and/or alternate fuels: natural gas, landfill gas, No. 4 fuel oil, coal, tallow sludge, glycerin residue, fatty alcohol residue and ester water.
- (12) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable operational restrictions.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall continuously monitor and record the steam flow rate of this emissions unit, in lbs of steam per hour, and the actual heat input, in mmBtu per hour.
- (2) The permittee shall collect representative grab samples of the coal burned in this emissions unit on a daily basis. Each sample shall be collected from each of the three coal feeders. The coal sampling shall be performed in accordance with ASTM method D2234, Standard Practice for Collection of a Gross Sample of Coal. At the end of each calendar month, all of the grab samples which were collected during that calendar month shall be combined into one composite sample.

Each monthly composite sample of coal shall be analyzed for ash content (percent), sulfur content (percent), and heat content (Btu/pound of coal). The analytical methods to be used to determine the ash content, sulfur content, and heat content shall be the most recent version of: ASTM method D3174, Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal; ASTM method D3177, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D5865 Standard Test Method for Gross Calorific Value of Coal and Coke, respectively. Alternative, equivalent methods may be used upon written approval from the appropriate Ohio EPA District Office or local air agency.



The permittee shall maintain monthly records of the total quantity of coal burned, and the results of the analyses for ash content, sulfur content, and heat content.

- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu)[The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)].

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

- (4) The permittee shall operate and maintain a temperature monitor and recorder that measures and records the temperature of the boiler exhaust gases entering the ESP (a) during all periods of start-up until the ESP is operational or until the inlet temperature of the ESP achieves the temperature level specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b) during all periods of shutdown until the inlet temperature of the ESP drops below the temperature level specified in OAC rule 3745-17-07(A)(3)(b)(i).

The temperature monitor and recorder shall be calibrated, operated, and maintained in accordance with manufacturer's recommendations, with any modifications deemed necessary by the permittee, and shall be capable of accurately measuring the temperature of the boiler exhaust gases in units of degrees Fahrenheit.

- (5) The permittee shall record and maintain the following information for the landfill gas combusted in this emissions unit:
- a. the sulfur content and methane content of the landfill gas which shall each be sampled and tested annually;
  - b. the heat content, in Btu/cubic foot which shall be sampled and tested annually; and
  - c. the quantity, in cubic feet, of landfill gas combusted, which shall be measured and recorded monthly.
- (6) A statement of certification of the existing continuous opacity monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall operate and maintain existing equipment to continuously monitor and record the opacity of the particulate emissions from this emissions unit. Such



continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of all data obtained by the continuous opacity monitoring system including, but not limited to, percent opacity on an instantaneous (one-minute) and 6-minute block average basis, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

The continuous emission monitoring system consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

- (7) The permittee shall collect and record the following information on a daily basis:
  - a. the calendar date;
  - b. the hours of operation;
  - c. the amount and type of each fuel combusted; and
  - d. the average hourly heat input, in mmBtu per hour.
- (8) The permittee shall collect and record the following information each month for emissions units B027, B042, B043, B044, and B045 combined:
  - a. the emissions of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, and lead for each month, in tons; and
  - b. the updated rolling, 12-month summation of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, and lead emissions, in tons. This shall include information for the current month and the preceding eleven calendar months.
- (9) The permittee shall comply with the emission monitoring requirements of 40 CFR Part 60.45.
- (10) For each day during which the permittee burns a fuel other than natural gas, landfill gas, No. 4 fuel oil, coal, tallow sludge, glycerin residue, fatty alcohol residue and ester water, the permittee shall maintain a record of the type and quantity of fuel burned in emissions unit B027.
- (11) The permittee shall maintain monthly records of the following for each fuel batch-firing scenario burned in emissions unit B027:
  - a. the quantity of each fuel burned (pounds of each liquid residue including tallow sludge, glycerin residue, fatty alcohol residue and ester water; tons of coal; standard cubic feet of natural gas and landfill gas; and gallons of No. 4 fuel oil);
  - b. the heat content of each fuel (in mmBtu/lb for liquid residue including tallow sludge, glycerin residue, fatty alcohol residue and ester water; mmBtu/lb for coal; Btu/mmscf for natural gas and landfill gas; and mmBtu/kgal for No. 4 fuel oil);



- c. the sulfur content of each fuel (weight% or gr/100 dscf); and
- d. the SO<sub>2</sub> emissions from each fuel (lb/mmBtu) calculated based on the sulfur and heat content analyses.

A fuel batch firing scenario is defined as a combination of fuels burned with specific characteristics determined by the fuel sampling results. Therefore, a new fuel batch-firing scenario will begin when a new fuel batch analysis is received, and/or when there is a change in the fuel or combination of fuels burned in emissions unit B027.

- (12) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable monitoring and record keeping requirements.

e) Reporting Requirements

- (1) The permittee shall submit quarterly reports on the quality and quantity of the coal burned in this emissions unit. These reports shall include the following information for the emissions unit for each month during the calendar quarter:
  - a. the total quantity of coal burned (tons);
  - b. the average ash content (percent) of the coal burned;
  - c. the average sulfur content (percent) of the coal burned;
  - d. the average heat content (Btu/pound) of the coal burned; and
  - e. the average sulfur dioxide emission rate (pounds sulfur dioxide/mmBtu actual heat input) from the coal burned.

Compliance with the sulfur dioxide emission limit shall be determined each month by calculating the average monthly sulfur dioxide emission rate, using the results of the analyses of the monthly composite sample for sulfur content and heat content.

These quarterly reports shall be submitted by February 15, May 15, August 15 and November 15 of each year, unless otherwise specified by the appropriate Ohio EPA District Office or local air agency, and shall cover the data obtained during the previous calendar quarters.

- (2) The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:
  - a. the total quantity of oil received in each shipment (gallons); and
  - b. the calculated SO<sub>2</sub> emissions rate (lbs/mmBtu actual heat input) of the oil received in each shipment.



These quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the data obtained during the previous calendar quarters.

- (3) Annual reports shall be submitted concerning the alternative fuels fired in emissions unit B027. This report shall include the following information for each annual composite sample taken:

a. the heat content of the alternative fuels, in Btu/gallon.

These reports shall be submitted by February 15 of each year, and cover the previous calendar year of operation.

- (4) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during start-up and shutdown of the emissions unit when the ESP was not in operation and the temperature of the boiler exhaust gases exceeded the temperature levels specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b)(i).

- (5) Annual reports shall be submitted concerning the landfill gas combusted in emissions unit B027. This report shall include the following information:

a. the average methane and sulfur contents of the landfill gas received;

b. the average heat content, in Btu/cubic foot, of the gas received; and

c. the total landfill gas combusted.

These reports shall be submitted by February 15 of each year, and shall cover the previous calendar year of operation.

- (6) Pursuant to 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency documenting all instances of opacity values in excess of the limitations specified in OAC rule 3745-17-07, detailing the date, commencement and completion times, duration, magnitude (percent opacity), reason (if known), and corrective actions taken (if any) of each 6-minute block average above the applicable opacity limitation(s).

The permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency documenting any continuous opacity monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the



reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

- (7) If for any reason the steam flow rate from emissions unit B027 exceeds 450,000 lbs/hr or the steam flow rate recorded during the most recent PE source test that demonstrated compliance the following information shall be reported within 5 business days after the exceedance:
  - a. the date of the exceedance;
  - b. the time interval over which the exceedance occurred;
  - c. the steam flow rate;
  - d. the cause(s) of the exceedance;
  - e. the corrective action which has been or will be taken to prevent similar exceedances in the future; and
  - f. a copy of the steam chart which shows the exceedance.
- (8) The permittee shall submit quarterly deviation (excursion) reports to the Southwest Ohio Air Quality Agency which identify all exceedances of the rolling, 12-month summation of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, and lead emissions for each calendar month for emissions units B027, B042, B043, B044, and B045 combined. If no deviations occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
- (9) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any fuel burned in this emissions unit other than natural gas, landfill gas, No. 4 fuel oil, coal, tallow sludge, glycerin residue, fatty alcohol residue and ester water. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
- (10) The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part A -Standard Term and Condition 4.c)(2).
- (11) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable reporting requirements.



f) Testing Requirements

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

a. Emission Limitations:

The combined emissions from emissions units B027, B042, B043, B044, and B045 shall not exceed 84.99 tons per year of PE, 84.99 tons per year of PM10, 1,733.59 tons per year of SO<sub>2</sub>, 966.27 tons per year of NO<sub>x</sub>, 156.36 tons per year of CO, 57.55 tons per year of VOC and 1.32 tons per year of lead, on a rolling, 12-month summation of the emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section d)(8).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. the emission testing shall be conducted within 180 days of permit issuance;
- b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate of 0.10 lb PE/mmBtu of actual heat input, when burning coal;
- c. the following test method(s) shall be employed to demonstrate compliance with the allowable particulate mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5; and
- d. the test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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



A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. the emission testing shall be conducted within 180 days of permit issuance;
  - b. the emission testing shall be conducted to demonstrate compliance with the mass emission limitation of 1.2 lbs SO<sub>2</sub>/mmBtu of actual heat input, when burning coal;
  - c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 6; and
  - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Southwest Ohio Air Quality Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Southwest Ohio Air Quality Agency.

- (4) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:



- a. the emission testing shall be conducted within 180 days of permit issuance;
- b. the emission testing shall be conducted to demonstrate compliance with the mass emission limitation of 0.7 lb NO<sub>x</sub>/mmBtu of actual heat input, when burning coal;
- c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 7; and
- d. the test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Southwest Ohio Air Quality Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Southwest Ohio Air Quality Agency.

- (5) Compliance with the visible particulate emission limitations listed in b)(2)a. shall be determined by monitoring specified in term and condition d)(6).
- (6) Compliance with the PE limitation in term and condition b)(2)d. shall be demonstrated by the testing requirement in term and condition f)(2).
- (7) Compliance with the SO<sub>2</sub> emission limitation in term and condition b)(2)b. shall be demonstrated by the record keeping requirements in d)(2), d)(3), and d)(5) and the testing requirements in f)(3).
- (8) Compliance with the NO<sub>x</sub> emission limitations in term and condition b)(2)c. shall be demonstrated by the emission factors from AP-42 (External Combustion Sources) and emission testing specified in f)(4).



If required, the permittee shall demonstrate compliance with the NO<sub>x</sub> emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 7.

- (9) Compliance with the fuel use limitation of terms and conditions c)(5) through c)(9) shall be demonstrated by the record keeping requirements in d)(11).
  - (10) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable testing requirements.
- g) Miscellaneous Requirements
- (1) Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous opacity monitoring system designed to ensure continuous valid and representative readings of opacity. The plan shall include, as a minimum, conducting and recording daily automatic zero/span checks, provisions for conducting a quarterly audit of the continuous opacity monitoring system, and a description of preventive maintenance activities. The plan shall describe step by step procedures for ensuring that sections 7.1.4, 7.4.1, 7.4.2, and Table 1-1 of Performance Specification 1 are maintained on a continuous basis. The quality assurance/quality control plan and a logbook dedicated to the continuous opacity monitoring system must be kept on site and available for inspection during regular office hours.
  - (2) The permittee has committed to not burning wastewater treatment sludge in this emissions unit. Should the permittee burn wastewater treatment sludge the National Emission Standards for Hazardous Air Pollutants (NESHAP), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 61, Subpart E, National Emission Standard for Mercury shall become applicable.



**2. B042, Boiler No. 7**

**Operations, Property and/or Equipment Description:**

Boiler #7, 225 mmBtu/hr boiler fired with natural gas, No.2 fuel oil and landfill gas.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) 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 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)	<p>The following emission limitations shall not be exceeded:</p> <p>When burning natural gas:</p> <p>Particulate emissions (PE) shall not exceed 0.0075 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.0075 lb/mmBtu of actual heat input*.</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.082 lb/mmBtu of actual heat input*.</p> <p>When burning No.2 fuel oil:</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Particulate emissions (PE) shall not exceed 0.015 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.015 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.037 lb/mmBtu of actual heat input*.</p> <p>When burning landfill gas:</p> <p>Particulate emissions (PE) shall not exceed 0.030 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.030 lb/mmBtu of actual heat input*.</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.06 lb/mmBtu of actual heat input.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.20 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.082 lb/mmBtu of actual heat input*.</p> <p>The particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3) is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart DDDDD. The permittee shall comply with all applicable emission limitations (including any less</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>stringent emission limitation) after the compliance date in 40 CFR Part 63, Subpart DDDDD.</p> <p>*The emission limitations outlined above are based on the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with these limitations.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-21-08(B), OAC rule 3745-23-06(B), OAC rule 3745-31-05(C), 40 CFR Part 60 Subpart Db and 40 CFR Part 63, Subpart DDDDD.</p> <p>See c)(1) and c)(8).</p>
b.	<p>OAC rule 3745-31-05(C)            Synthetic Minor to Avoid Nonattainment New Source Review and Prevention of Significant Deterioration</p>	<p>Particulate emissions (PE) shall not exceed 84.99 tons per year.**</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 84.99 tons per year.**</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 1,733.59 tons per year.**</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 966.27 tons per year.**</p> <p>Carbon monoxide (CO) emissions shall not exceed 156.36 tons per year.**</p> <p>Volatile organic compound (VOC) emissions shall not exceed 57.55 tons per year.**</p> <p>Lead emissions shall not exceed 1.32 tons per year.**</p> <p>**as a rolling, 12-month summation from emissions units B027, B042, B043, B044, and B045, combined.</p> <p>See c)(2) through c)(7).</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emission from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-10(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-17-10(C)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-06(A)	This emissions unit is exempt from OAC rule 3745-18-06(D) and OAC rule 3745-18-37 during any calendar day in which natural gas is the only fuel burned.
g.	OAC rule 3745-18-06(D)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/mmBtu of actual heat input and 5.32 tons per year.</p> <p>Lead emissions shall not exceed .000009 lb/MMBtu and .0089 TPY.</p> <p>See b)(2)e.</p>
i.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)f.
j.	40 CFR Part 60, Subparts A and Db	<p>The nitrogen oxides (NO<sub>x</sub>) emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p> <p>Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 0.060 lb/mmBtu of actual heat input when firing No. 2 fuel oil or landfill gas.</p> <p>See b)(2)b. – b)(2)d. and c)(9).</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
k.	40 CFR Part 63, Subpart DDDDD (40 CFR Part 63.7480-7575)  National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters	Applicable Emission Limits in Tables 1 and 2; Work Practice Standards in Table 3 and Operating Limits in Table 4 to Subpart DDDDD of 40 CFR Part 63.  Pursuant to 40 CFR 63.7495(b), the permittee shall comply with this subpart no later than January 31, 2016, except as provided in 63.6(i).
l.	40 CFR Part 63.1-15 (40 CFR 63.7565)	Table 10 to 40 CFR Part 63, Subpart DDDDD – Applicability of General Provisions (Subpart A) to Subpart DDDDD shows which parts of the General Provisions in 40 CFR Part 63.1-15 apply.

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the emission limitations, the visible emission limitation and the use of low-NOx burners.
- b. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.
- c. The permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system, designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- d. Pursuant to 40 CFR 60.48b(l), the permittee is not required to operate a COMS on emissions unit B042 provided that the unit burns only gaseous fuels and/or liquid fuels (excluding residue oil) with a potential SO<sub>2</sub> emissions rate no greater than 0.060 lb/MMBtu, and the unit operates according to the written site specific monitoring plan approved by the Southwest Ohio Air Quality Agency (SWOQA).
- e. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code



(ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not 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-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- f. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC and lead emissions from this air contaminant source since the uncontrolled potential to emit for VOC's and lead is less than 10 tons/year.

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.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas, No. 2 fuel oil or landfill gas in this emissions unit.
- (2) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[A_{B027} * 84 \text{ lb/mmscf} + B * 5.7 \text{ lb/mmscf} + C * 5 \text{ lb/kgal} + D * 0.5 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.082 \text{ lb/mmBtu} + G_{B042} + G_{B043} + G_{B044} + G_{B045}] / 2000 \text{ lb/ton} \leq 156.36 \text{ tons of CO per 12-month rolling period}$$

Where:

- A<sub>B027</sub> = natural gas usage in B027 for the 12-month period (in mmscf);
- B = landfill gas usage in B027, B042, B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- G<sub>B0XX</sub> = CO emissions for B042, B043, B044 or B045 calculated based on the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) and the applicable emission factors for No. 2 fuel oil from AP- 42 Section 1.3 (9/98), (in pounds);
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water);



The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (3) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A_{B027} + A_{B045}) * 100 \text{ lb/mmscf} + B * 33 \text{ lb/mmscf} + C * 47 \text{ lb/kgal} + D * 10 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.30 \text{ lb/mmBtu} + F * H_5 * 0.07 \text{ lb/mmBtu} + G_{B042} + G_{B043} + G_{B044}] / 2000 \text{ lb/ton} \leq 966.27 \text{ tons of NO}_x \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = natural gas usage in B027 or B045 for the 12-month period (in mmscf);
- B = landfill gas usage in B027 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = number 2 fuel oil usage in B045 for the 12-month period (in kgal);
- G<sub>B0XX</sub> = NO<sub>x</sub> emissions for B042, B043, or B044 calculated based on data from NO<sub>x</sub> CEMS for the 12-month period (in pounds); and,
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (9) = ester water, and (5) = No. 2 fuel oil] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water and mmBtu/kgal for No. 2 fuel oil).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (4) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A+B) * 5.5 \text{ lb/mmscf}] + (C + F_{B042} + F_{B043} + F_{B044} + F_{B045}) * 0.25 \text{ lb/kgal} + D * 0.06 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.0054 \text{ lb/mmBtu} / 2000 \text{ lb/ton} \leq 57.55 \text{ tons of VOC per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);



- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal); and
- H<sub>i</sub> = heat content of tallow sludge, glycerin residue, fatty alcohol residue and ester water [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in mmBtu/lb as determined in section d)(11) for B027.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (5) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T * (D * H_8) + C * (150 * S_7) \text{ lb/kgal} + (A + B) * 0.60 \text{ lb/mmscf} + (F_{B042} + F_{B043} + F_{B044} + F_{B045}) * (142 * S_5) \text{ lb/kgal} + 2 \text{ lb SO}_2/\text{lb of Sulfur} * (E_1 * S_1 + E_2 * S_2 + E_3 * S_3 + E_9 * S_9)] / 2000 \text{ lb/ton} \leq 1,733.59 \text{ tons of SO}_2 \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuels [(8) = coal] (in mmBtu/lb for in mmBtu/ton for coal);
- S<sub>i</sub> = sulfur content of each fuel (wt %) [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (7) = number 4 fuel oil and (9) = ester water]; and
- T = stack test results for SO<sub>2</sub> from most recent stack test for B027 (in lb/mmBtu).



The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (6) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T_{B027} * (E_{1,B027} * H_1 + E_{2,B027} * H_2 + E_{3,B027} * H_3 + E_{9,B027} * H_9 + C * H_7 + D * H_8)] + 7.6 \text{ lbs/mmscf} * (A + B) + 2 \text{ lbs/kgal} * (F_{B045} + F_{B044} + F_{B043} + F_{B042}) / 2000 \text{ lbs/ton} \leq 84.99 \text{ tons of PE/PM10 per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i,B0XX</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (7) = number 4 fuel oil, (8) = coal and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/ton for coal and mmBtu/kgal for No. 4 fuel oil); and
- T<sub>B027</sub> = stack test results for PE and PM10 from most recent stack tests for B027 (in lb/mmBtu).

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (7) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A + B) * 5.00E-04 \text{ lb/mmscf} + C * 1.51 E-03 \text{ lb/kgal} + D * H_8 * 5.07 E-04 \text{ lb/mmBtu} + F * H_5 * 9.00E-06 \text{ lb/mmBtu} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 9.00E-06 \text{ lb/mmBtu}] / 2000 \text{ lbs/ton} \leq 1.32 \text{ tons of lead per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);



- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = total number 2 fuel oil usage in B042, B043, B044, and B045 for the 12-month period (in kgal);
- $H_i$  = heat content of fuel [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (8) = coal and (9) = ester water] in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/kgal for No. 2 fuel oil and in mmBtu/ton for coal.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (8) The permittee shall install, operate, and maintain low-NOx burners, that comply with the NOx emission limitations listed in term b)(1), at all times when operating this emissions unit.
- (9) The quality of the No. 2 fuel oil and landfill gas burned in this emissions unit shall have a combination of sulfur content and heat content sufficient to meet the sulfur dioxide emission limitation of 0.060 lb/mmBtu of actual heat input on an "as-received basis".
- (10) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable operational restrictions.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, No. 2 fuel oil or landfill gas the permittee shall maintain a record of the type and quantity of fuel burned in emissions unit B042.
- (2) The permittee may use fuel analysis reports from the supplier to determine the heating value of natural gas and landfill gas along with the sulfur content of landfill gas [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. Each gas fuel batch is defined by the most recent analysis received from the supplier(s). These analyses must be obtained at least quarterly when burned [see 40 CFR 60.48b(j)(2) and 40 CFR 60.49b(r)].
- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu.) [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. The records shall also include certification from the fuel oil supplier that the oil meets the definition of very low sulfur distillate oil [see 40 CFR 60.49b(r)].



The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

- (4) The permittee shall maintain monthly records of the following for each fuel batch-firing scenario burned in emissions unit B042:
- a. the quantity of each fuel burned (standard cubic feet of natural gas and landfill gas, gallons of No. 2 fuel oil);
  - b. the heat content of each fuel (in Btu/mmscf for natural gas and landfill gas, and mmBtu/kgal for No. 2 fuel oil).;
  - c. the sulfur content of No. 2 fuel oil and landfill gas (weight% or gr/100 dscf); and
  - d. the SO<sub>2</sub> emissions from each fuel (lb/mmBtu) calculated based on the sulfur and heat content analyses in d)(2) and d)(3).

A fuel batch firing scenario is defined as a combination of fuels burned with specific characteristics determined by the fuel sampling results. Therefore, a new fuel batch-firing scenario will begin when a new fuel batch analysis is received, and/or when there is a change in the fuel or combination of fuels burned in emissions unit B042.

- (5) The permittee shall collect and record the following information each month for emissions units B027, B042, B043, B044, and B045 combined:
- a. the emissions of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead for each month, in tons; and
  - b. the updated rolling, 12-month summation of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions, in tons. This shall include information for the current month and the preceding eleven calendar months.
- (6) The permittee shall install, operate, and maintain equipment to continuously monitor and record nitrogen oxides emissions from emissions unit B042 in pounds per mmBtu. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall operate the continuous emissions monitoring system (CEMS) and record data during all periods of operation except for continuous monitoring systems breakdowns and repairs. Data shall be recorded during calibration checks, zero adjustments, and span adjustments.

The permittee shall operate the CEMS with a NO<sub>x</sub> span value of 500 ppm as specified in 40 CFR 60.48b(e)(2)(i) or as determined in accordance with 40 CFR 60.48b(e)(2)(ii).



- (7) Each CEMS consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- (8) The permittee shall maintain a certification letter from the Ohio EPA documenting that the NO<sub>x</sub> CEMS has been certified in accordance with the requirements of 40 CFR Part 60. The letter of certification shall be made available to the Director upon request.
- (9) When NO<sub>x</sub> emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using standby monitoring systems, U.S. EPA Method 7 or 7a of 40 CFR Part 60, Appendix A, or other approved reference methods to provide data for a minimum of 75% of the operating hours in a day, in at least 22 out of 30 successive days of operation.
- (10) The permittee shall maintain records of the following data obtained by the NO<sub>x</sub> CEMS for each operating day as specified in 40 CFR 60.49b(g):
  - a. calendar date;
  - b. emissions of nitrogen oxides in pounds per mmBtu actual heat input on an hourly average basis;
  - c. emissions of nitrogen oxides in pounds per mmBtu actual heat input on a rolling, 30-day average basis;
  - d. identification of all days where the rolling, 30-day average NO<sub>x</sub> emissions rate exceed the pound per mmBtu emission limitation, the reason for the excess emissions and a description of the corrective actions taken;
  - e. identification of operating days for which sufficient NO<sub>x</sub> emissions data has not been obtained, the reason for not obtaining sufficient data, and a description of the corrective actions taken;
  - f. identification of all periods of time which emissions data has been excluded from the calculation of the average emission rate and the reason for excluding the data;
  - g. a records of the "F" factor used in the calculation of the rolling, 30-day average NO<sub>x</sub> emission rate and the method used to determine the "F" factor;
  - h. identification of the times when NO<sub>x</sub> concentration exceeded the span of the continuous monitoring system;
  - i. description of any modifications to the CEMS that could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3 of 40 CFR Part 60, Appendix B;
  - j. results of daily CEMS drift tests and quarterly accuracy assessments as required by Procedure 1 of 40 CFR Part 60, Appendix F; and



k. results of daily zero/span calibration checks and magnitude of manual calibration adjustments.

- (11) Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR 60, Appendix B, Performance Specification 2 for approval by the Ohio EPA, Central Office.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (12) Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system, designed to ensure continuous valid and representative readings of NO<sub>x</sub> emission in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

- (13) The permittee shall maintain all of the records specified in the Emery Site Specific Monitoring Plan, dated November 20, 2012, submitted pursuant to 40 CFR Part 60.45b(l).
- (14) This emissions unit shall be operated and maintained in accordance with the manufacturer's recommendations. The permittee shall maintain records verifying that necessary maintenance activities have been performed on this emissions unit.
- (15) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable monitoring and record keeping requirements.

e) Reporting Requirements

- (1) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the calculated sulfur dioxide emission rates from Section d)(2) and d)(3) above. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
- (2) The permittee shall submit quarterly deviation (excursion) reports to the Southwest Ohio Air Quality Agency which identify all exceedances of the rolling, 12-month summation of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions for each calendar



month for emissions units B027, B042, B043, B044, and B045 combined. If no deviations occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

- (3) The deviation reports shall be submitted in accordance with the requirements specified in Part A - Standard Term and Condition 4.c)(2) of this permit.
- (4) Pursuant to the NSPS and NESHAP, the permittee is hereby advised of the requirement to report the following at the appropriate times:
  - a. construction date (no later than 30 days after such date);
  - b. actual start-up date (within 15 days after such date); and
  - c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Southwest Ohio Air Quality Agency  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

- (5) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any fuel burned in this emissions unit other than natural gas, No. 2 fuel oil or landfill gas. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
- (6) The permittee shall submit a quarterly report containing the information included in Section d)(10) above.
- (7) The quarterly report shall also document any continuous NO<sub>x</sub> CEMS downtime while emissions unit B042 was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit B042 operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit B042 and control equipment malfunctions. The total operating time of emissions unit B042 and the total operating time of the analyzer while emissions unit B042, and the total minutes of operating and downtime of emissions unit B042, was on line shall also be included in the quarterly report.
- (8) The permittee shall submit quarterly reports to the Southwest Ohio Air Quality Agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances when the calculated 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable limitations specified in the terms and conditions of this permit during the previous calendar quarter.



If there are no excess emissions during the previous calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

- (9) The permittee shall submit quarterly reports as specified in the Emery Site Specific Monitoring Plan, dated November 20, 2012, submitted pursuant to 40 CFR Part 60.45b(l). These reports shall be submitted as specified under 40 CFR Part 60.49b(h).
  - (10) The permittee shall submit annual reports which specify the total PE, PM10, SO2, NOx, VOC, CO and lead emissions from this emissions unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
  - (11) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable reporting requirements.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emissions Limitations:
      - When burning natural gas, this emissions unit shall not exceed:
        - 0.0075 pound of PE/mmBtu;
        - 0.0075 pound of PM10/mmBtu;
        - 0.0006 pound of SO2/mmBtu; and
        - 0.082 pound of CO/mmBtu.
      - When burning No.2 fuel oil, this emissions unit shall not exceed:
        - 0.015 pound of PE/mmBtu;
        - 0.015 pound of PM10/mmBtu; and
        - 0.037 pound of CO/mmBtu.
      - When burning landfill gas, this emissions unit shall not exceed:
        - 0.082 pound of CO/mmBtu



Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by multiplying the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) by 1 ft<sup>3</sup>/1020 Btu and the applicable emission factors for No. 2 fuel oil from AP-42 Section 1.3 (9/98) by 1000 gal/140 mmBtu.

If required, the permittee shall demonstrate compliance with the PE, PM10, SO2 (natural gas) and CO lb/mmBtu emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, 5, 6, 10, 25 and 201.

b. Emissions Limitations:

0.10 pound of NOx/mmBtu, when burning natural gas, on a rolling 30-day average basis; and

0.10 pound of NOx/mmBtu, when burning No. 2 fuel oil, on a rolling 30-day average.

0.20 pound of NOx/mmBtu, when burning landfill gas, on a rolling 30-day average.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the lb/mmBtu of NOx emission limitations based upon the results of the emissions tests required in Section f)(2) and the record keeping requirements in Section d)(10).

c. Emission Limitation:

When burning No.2 fuel oil or landfill gas this emissions unit shall not exceed: 0.06 pound of SO2/mmBtu of actual heat input.

Applicable Compliance Method:

For fuel oil:  $ER = (1 \times 10^6)/H \times D \times S \times 1.974$  where:

ER = the emission rate in pounds of sulfur dioxide per MM Btu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.

For landfill gas:  $ER = (1 \times 10^6)/H \times D \times S \times 1.998$  where:

ER = the emission rate in pounds of sulfur dioxide per MM Btu;



H = the heat content of the gaseous fuel in Btu per standard cubic foot;

D = the density of the gaseous fuel in pounds per standard cubic foot; and

S = the decimal fraction of sulfur in the gaseous fuel.

Compliance with the lb/mmBtu emission limitations shall be based upon the record keeping requirements in Sections d)(2)-d)(4).

If required, the permittee shall demonstrate compliance with the lb/mmBtu emissions limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6.

d. Emission Limitation:

Visible particulate emission from the emissions unit B042 stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

VOC emissions shall not exceed 0.0054 lb/mmBtu and 5.32 TPY.

Lead emissions shall not exceed 0.000009 lb/mmBtu and 0.0089 TPY.

Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by using the applicable VOC and lead emission factors from AP-42 for the worst case fuel burned in this emissions unit.

The annual emission limitations are determined by multiplying the lb/mmBtu emission limitation by the mmBtu/hr rating of the emissions unit then multiplying by 8760 hours/year then divide by 2000.

f. Emission Limitation:

The combined emissions from emissions units B027, B042, B043, B044, and B045 shall not exceed 84.99 tons per year of PE, 84.99 tons per year of PM10, 1,733.59 tons per year of SO<sub>2</sub>, 966.27 tons per year of NO<sub>x</sub>, 156.36 tons per year of CO, 57.55 tons per year of VOC and 1.32 tons per year of lead, on a rolling, 12-month summation of the emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section d)(5).



g. Emission Limitation:

Particulate emissions shall not exceed 0.030 pound per mmBtu of actual heat input when burning landfill gas.

PM10 emissions shall not exceed 0.030 pound per mmBtu of actual heat input when burning landfill gas.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the lb/mmBtu of PM10 emissions limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 201.

- (2) Within 180 days of the initial startup of emissions unit B042, the permittee shall conduct certification tests of the continuous NO<sub>x</sub> monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6 and ORC section 3704.03(l).

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency shall be notified 45 days prior to the initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the appropriate Ohio EPA District Office or local air agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR part 60, Appendix B, Performance Specification 2 and 6; ORC section 3704.03(l). The letter/document of certification, or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO<sub>x</sub> monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Ongoing compliance with the NO<sub>x</sub> emissions limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR Part 60.

- (3) Compliance with the fuel limitation in term and condition c)(1) shall be demonstrated by the record keeping requirements specified in term and condition d)(1).
- (4) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable testing requirements.



**Final Permit-to-Install**  
Emery Oleochemicals LLC  
**Permit Number:** P0109124  
**Facility ID:** 1431074278  
**Effective Date:** 7/17/2013

g) Miscellaneous Requirements

(1) None



**3. B043, Boiler No. 8**

**Operations, Property and/or Equipment Description:**

Boiler #8, 225 mmBtu/hr boiler fired with natural gas or No. 2 fuel oil.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) 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 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)	<p>The following emission limitations shall not be exceeded:</p> <p>When burning natural gas:</p> <p>Particulate emissions (PE) shall not exceed 0.0075 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.0075 lb/mmBtu of actual heat input*.</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.082 lb/mmBtu of actual heat input*.</p> <p>When burning No.2 fuel oil:</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Particulate emissions (PE) shall not exceed 0.015 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.015 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.037 lb/mmBtu of actual heat input*.</p> <p>The particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3) is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart DDDDD. The permittee shall comply with all applicable emission limitations (including any less stringent emission limitation) after the compliance date in 40 CFR Part 63, Subpart DDDDD.</p> <p>*The emission limitations outlined above are based on the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with these limitations.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-21-08(B), OAC rule 3745-23-06(B), OAC rule 3745-31-05(C), 40 CFR Part 60 Subpart Db and 40 CFR Part 63, Subpart DDDDD.</p> <p>See c)(1) and c)(8).</p>
b.	OAC rule 3745-31-05(C) Synthetic Minor to Avoid Nonattainment New Source Review and Prevention of Significant Deterioration	Particulate emissions (PE) shall not exceed 84.99 tons per year.**



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 84.99 tons per year.**</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 1,733.59 tons per year.**</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 966.27 tons per year.**</p> <p>Carbon monoxide (CO) emissions shall not exceed 156.36 tons per year.**</p> <p>Volatile organic compound (VOC) emissions shall not exceed 57.55 tons per year.**</p> <p>Lead emissions shall not exceed 1.32 tons per year.**</p> <p>**as a rolling, 12-month summation from emissions units B027, B042, B043, B044, and B045, combined.</p> <p>See c)(2) through c)(7).</p>
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emission from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-10(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-18-06(A)	This emissions unit is exempt from OAC rule 3745-18-06(D) and OAC rule 3745-18-37 during any calendar day in which natural gas is the only fuel burned.
f.	OAC rule 3745-18-06(D)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
g.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/mmBtu of actual heat input and 5.32 tons per year.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Lead emissions shall not exceed .000009 lb/MMBtu and .0089 TPY.  See b)(2)e.
h.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)f.
i.	40 CFR Part 60, Subparts A and Db	The nitrogen oxides (NO <sub>x</sub> ) emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).  Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.06 lb/mmBtu of actual heat input when firing No. 2 fuel oil or landfill gas.  See b)(2)b. – b)(2)d. and c)(9).
j.	40 CFR Part 63, Subpart DDDDD (40 CFR Part 63.7480-7575)  National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters	Applicable Emission Limits in Tables 1 and 2; Work Practice Standards in Table 3 and Operating Limits in Table 4 to Subpart DDDDD of 40 CFR Part 63.  Pursuant to 40 CFR 63.7495(b), the permittee shall comply with this subpart no later than January 31, 2016, except as provided in 63.6(i).
k.	40 CFR Part 63.1-15 (40 CFR 63.7565)	Table 10 to 40 CFR Part 63, Subpart DDDDD – Applicability of General Provisions (Subpart A) to Subpart DDDDD shows which parts of the General Provisions in 40 CFR Part 63.1-15 apply.

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the emission limitations, the visible emission limitation and the use of low-NO<sub>x</sub> burners.
- b. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.



- c. The permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system, designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- d. Pursuant to 40 CFR 60.48b(l), the permittee is not required to operate a COMS on emissions unit B043 provided that the unit burns only gaseous fuels and/or liquid fuels (excluding residue oil) with a potential SO<sub>2</sub> emissions rate no greater than 0.060 lb/MMBtu, and the unit operates according to the written site specific monitoring plan approved by the Southwest Ohio Air Quality Agency (SWOAQA).
- e. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not 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-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- f. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC and lead emissions from this air contaminant source since the uncontrolled potential to emit for VOC's and lead is less than 10 tons/year.

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.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas or No. 2 fuel oil in this emissions unit.
- (2) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[A_{B027} * 84 \text{ lb/mm}^3\text{scf} + B * 5.7 \text{ lb/mm}^3\text{scf} + C * 5 \text{ lb/kgal} + D * 0.5 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.082 \text{ lb/mm}^3\text{Btu} + G_{B042} + G_{B043} + G_{B044} + G_{B045}] / 2000 \text{ lb/ton} \leq 156.36 \text{ tons of CO per 12-month rolling period}$$

Where:

A<sub>B027</sub> = natural gas usage in B027 for the 12-month period (in mmscf);



- B = landfill gas usage in B027, B042, B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- G<sub>B0XX</sub> = CO emissions for B042, B043, B044 or B045 calculated based on the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) and the applicable emission factors for No. 2 fuel oil from AP- 42 Section 1.3 (9/98), (in pounds);
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (3) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A_{B027} + A_{B045}) * 100 \text{ lb/mmscf} + B * 33 \text{ lb/mmscf} + C * 47 \text{ lb/kgal} + D * 10 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.30 \text{ lb/mmBtu} + F * H_5 * 0.07 \text{ lb/mmBtu} + G_{B042} + G_{B043} + G_{B044}]/2000 \text{ lb/ton} \leq 966.27 \text{ tons of NO}_x \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = natural gas usage in B027 or B045 for the 12-month period (in mmscf);
- B = landfill gas usage in B027 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = number 2 fuel oil usage in B045 for the 12-month period (in kgal);
- G<sub>B0XX</sub> = NO<sub>x</sub> emissions for B042, B043, or B044 calculated based on data from NO<sub>x</sub> CEMS for the 12-month period (in pounds);
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (9) = ester water and (5) for No. 2 fuel oil] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water and mmBtu for No. 2 fuel oil).



The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (4) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A+B) * 5.5 \text{ lb/mmscf}] + (C + F_{B042} + F_{B043} + F_{B044} + F_{B045}) * 0.25 \text{ lb/kgal} + D * 0.06 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.0054 \text{ lb/mmBtu}] / 2000 \text{ lb/ton} \leq 57.55 \text{ tons of VOC per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal); and
- H<sub>i</sub> = heat content of tallow sludge, glycerin residue, fatty alcohol residue and ester water [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in mmBtu/lb as determined in section d)(11) for B027.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (5) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T * (D * H_8) + C * (150 * S_7) \text{ lb/kgal} + (A+ B) * 0.60 \text{ lb/mmscf} + (F_{B042} + F_{B043} + F_{B044} + F_{B045}) * (142 * S_5) \text{ lb/kgal} + 2 \text{ lb SO}_2/\text{lb of Sulfur} * (E_1 * S_1 + E_2 * S_2 + E_3 * S_3 + E_9 * S_9)] / 2000 \text{ lb/ton} \leq 1,733.59 \text{ tons of SO}_2 \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);



- B = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuels [(8) = coal] (in mmBtu/lb for in mmBtu/ton for coal);
- S<sub>i</sub> = sulfur content of each fuel (wt %) [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (7) = number 4 fuel oil and (9) = ester water]; and
- T = stack test results for SO<sub>2</sub> from most recent stack test for B027 (in lb/mmBtu).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (6) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T_{B027} * (E_{1,B027} * H_1 + E_{2,B027} * H_2 + E_{3,B027} * H_3 + E_{9,B027} * H_9 + C * H_7 + D * H_8)] + 7.6 \text{ lbs/mmscf} * (A + B) + 2 \text{ lbs/kgal} * (F_{B045} + F_{B044} + F_{B043} + F_{B042}) / 2000 \text{ lbs/ton} \leq 84.99 \text{ tons of PE/PM10 per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i,B0XX</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (7) = number 4 fuel oil, (8) = coal and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/ton for coal and mmBtu/kgal for No. 4 fuel oil); and



$T_{B027}$  = stack test results for PE and PM10 from most recent stack tests for B027 (in lb/mmBtu).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (7) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A + B) * 5.00E-04 \text{ lb/mmscf} + C * 1.51 \text{ E-}03 \text{ lb/kgal} + D * H_8 * 5.07 \text{ E-}04 \text{ lb/mmBtu} + F * H_5 * 9.00E-06 \text{ lb/mmBtu} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 9.00E-06 \text{ lb/mmBtu}] / 2000 \text{ lbs/ton} \leq 1.32 \text{ tons of lead per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = total number 2 fuel oil usage in B042, B043, B044, and B045 for the 12-month period (in kgal);
- $H_i$  = heat content of fuel [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (8) = coal and (9) = ester water] in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/kgal for No. 2 fuel oil and in mmBtu/ton for coal.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (8) The permittee shall install, operate, and maintain low-NOx burners, that comply with the NOx emission limitations listed in b)(1), at all times when operating this emissions unit.



- (9) The quality of the No. 2 fuel oil and natural gas burned in this emissions unit shall have a combination of sulfur content and heat content sufficient to meet the sulfur dioxide emission limitation of 0.06 lb/mmBtu of actual heat input on an "as-received basis".
- (10) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable operational restrictions.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) For each day during which the permittee burns a fuel other than natural gas and/or No. 2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in emissions unit B043.
- (2) The permittee may use fuel analysis reports from the supplier to determine the heating value of natural gas. Each natural gas fuel batch is defined by the most recent analysis received from the supplier(s). These analyses must be obtained at least once every quarter.
- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu.) [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. The records shall also include certification from the fuel oil supplier that the oil meets the definition of very low sulfur distillate oil [see 40 CFR 60.49b(r)].

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

- (4) The permittee shall maintain monthly records of the following:
  - a. the quantity of each fuel burned (standard cubic feet of natural gas, gallons of no. 2 fuel oil);
  - b. the heat content of each fuel (Btu per standard cubic feet, Btu per gallon);
  - c. the sulfur content of each fuel (weight% or gr/100 dscf); and
  - d. the SO<sub>2</sub> emissions from each fuel (lb/mmBtu) calculated based on the sulfur and heat content analyses in d)(2) and d)(3).
- (5) The permittee shall collect and record the following information each month for emissions units B027, B042, B043, B044, and B045 combined:
  - a. the emissions of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead for each month, in tons; and



- b. the updated rolling, 12-month summation of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions, in tons. This shall include information for the current month and the preceding eleven calendar months.
- (6) The permittee shall install, operate, and maintain equipment to continuously monitor and record nitrogen oxides emissions from emissions unit B043 in pounds per mmBtu. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall operate the continuous emissions monitoring system (CEMS) and record data during all periods of operation except for continuous monitoring systems breakdowns and repairs. Data shall be recorded during calibration checks, zero adjustments, and span adjustments.

The permittee shall operate the CEMS with a NO<sub>x</sub> span value of 500 ppm as specified in 40 CFR 60.48b(e)(2)(i) or as determined in accordance with 40 CFR 60.48b(e)(2)(ii).

- (7) Each CEMS consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- (8) The permittee shall maintain a certification letter from the Ohio EPA documenting that the NO<sub>x</sub> CEMS has been certified in accordance with the requirements of 40 CFR Part 60. The letter of certification shall be made available to the Director upon request.
- (9) When NO<sub>x</sub> emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using standby monitoring systems, U.S. EPA Method 7 or 7a of 40 CFR Part 60, Appendix A, or other approved reference methods to provide data for a minimum of 75% of the operating hours in a day, in at least 22 out of 30 successive days of operation.
- (10) The permittee shall maintain records of the following data obtained by the NO<sub>x</sub> CEMS for each operating day as specified in 40 CFR 60.49b(g):
  - a. calendar date;
  - b. emissions of nitrogen oxides in pounds per mmBtu actual heat input on an hourly average basis;
  - c. emissions of nitrogen oxides in pounds per mmBtu actual heat input on a rolling, 30-day average basis;
  - d. identification of all days where the rolling, 30-day average NO<sub>x</sub> emissions rate exceed the pound per mmBtu emission limitation, the reason for the excess emissions and a description of the corrective actions taken;
  - e. identification of operating days for which sufficient NO<sub>x</sub> emissions data has not been obtained, the reason for not obtaining sufficient data, and a description of the corrective actions taken;



- f. identification of all periods of time which emissions data has been excluded from the calculation of the average emission rate and the reason for excluding the data;
  - g. a records of the "F" factor used in the calculation of the rolling, 30-day average NO<sub>x</sub> emission rate and the method used to determine the "F" factor;
  - h. identification of the times when NO<sub>x</sub> concentration exceeded the span of the continuous monitoring system;
  - i. description of any modifications to the CEMS that could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3 of 40 CFR Part 60, Appendix B;
  - j. results of daily CEMS drift tests and quarterly accuracy assessments as required by Procedure 1 of 40 CFR Part 60, Appendix F; and
  - k. results of daily zero/span calibration checks and magnitude of manual calibration adjustments.
- (11) Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR 60, Appendix B, Performance Specification 2 for approval by the Ohio EPA, Central Office.
- Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.
- (12) The permittee shall maintain all of the records specified in the Emery Site Specific Monitoring Plan, dated November 20, 2012, submitted pursuant to 40 CFR Part 60.45b(l).
- (13) This emissions unit shall be operated and maintained in accordance with the manufacturer's recommendations. The permittee shall maintain records verifying that necessary maintenance activities have been performed on this emissions unit.
- (14) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable monitoring and record keeping requirements.
- e) Reporting Requirements
- (1) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the calculated sulfur dioxide emission rates from Section d)(2) and d)(3) above. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.



- (2) The permittee shall submit quarterly deviation (excursion) reports to the Southwest Ohio Air Quality Agency which identify all exceedances of the rolling, 12-month summation of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions for each calendar month for emissions units B027, B042, B043, B044, and B045 combined. If no deviations occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
- (3) The deviation reports shall be submitted in accordance with the requirements specified in Part A - Standard Term and Condition 4.c)(2) of this permit.
- (4) Pursuant to the NSPS and NESHAP, the permittee is hereby advised of the requirement to report the following at the appropriate times:
  - a. construction date (no later than 30 days after such date);
  - b. actual start-up date (within 15 days after such date); and
  - c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Southwest Ohio Air Quality Agency  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

- (5) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any fuel burned in this emissions unit other than natural gas or No. 2 fuel oil. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
- (6) The permittee shall submit a quarterly report containing the information included in Section d)(10) above.
- (7) The quarterly report shall also document any continuous NO<sub>x</sub> CEMS downtime while emissions unit B043 was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit B043 operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit B043 and control equipment malfunctions. The total operating time of emissions unit B043 and the total operating time of the analyzer while emissions unit B043, and the total minutes of operating and downtime of emissions unit B043, was on line shall also be included in the quarterly report.
- (8) The permittee shall submit quarterly reports to the Southwest Ohio Air Quality Agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances when the calculated 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable limitations specified in the terms and conditions of this permit during the previous calendar quarter.



If there are no excess emissions during the previous calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

- (9) The permittee shall submit quarterly reports as specified in the Emery Site Specific Monitoring Plan, dated November 20, 2012, submitted pursuant to 40 CFR Part 60.45b(l). These reports shall be submitted as specified under 40 CFR Part 60.49b(h).
  - (10) The permittee shall submit annual reports which specify the total PE, PM10, SO2, NOx, VOC, CO and lead emissions from this emissions unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
  - (11) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable reporting keeping requirements.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emissions Limitations:
      - When burning natural gas, this emissions unit shall not exceed:
        - 0.0075 pound of PE/mmBtu;
        - 0.0075 pound of PM10/mmBtu;
        - 0.0006 pound of SO2/mmBtu; and
        - 0.082 pound of CO/mmBtu.
      - When burning No.2 fuel oil, this emissions unit shall not exceed:
        - 0.015 pound of PE/mmBtu;
        - 0.015 pound of PM10/mmBtu; and
        - 0.037 pound of CO/mmBtu.
    - Applicable Compliance Method:
      - The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by multiplying the applicable emission



factors for natural gas from AP-42, Section 1.4 (7/98) by 1 ft<sup>3</sup>/1020 Btu and the applicable emission factors for No. 2 fuel oil from AP-42 Section 1.3 (9/98) by 1000 gal/140 mmBtu.

If required, the permittee shall demonstrate compliance with the PE, PM10, SO2 (natural gas) and CO lb/mmBtu emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, 5, 6, 10, 25 and 201.

b. Emissions Limitations:

0.1 pound of NOx/mmBtu, when burning natural gas, on a rolling 30-day average basis; and

0.1 pound of NOx/mmBtu, when burning No. 2 fuel oil, on a rolling 30-day average.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the lb/mmBtu of NOx emission limitations based upon the results of the emissions tests required in Section f)(2) and the record keeping requirements in d)(10).

c. Emission Limitation:

When burning No.2 fuel oil, this emissions unit shall not exceed:

0.06pound of SO2/mmBtu of actual heat input.

Applicable Compliance Method:

For fuel oil:  $ER = (1 \times 106)/H \times D \times S \times 1.974$  where:

ER = the emission rate in pounds of sulfur dioxide per MM Btu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.

If required, the permittee shall demonstrate compliance with the lb/mmBtu emissions limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6.

d. Emission Limitation:

Visible particulate emission from the emissions unit B043 stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.



Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

VOC emissions shall not exceed 0.0054 lb/mmBtu and 5.32 TPY.

Lead emissions shall not exceed 0.000009 lb/mmBtu and 0.0089 TPY.

Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by using the applicable VOC and lead emission factors from AP-42 for the worst case fuel burned in this emissions unit.

The annual emission limitations are determined by multiplying the lb/mmBtu emission limitation by the mmBtu/hr rating of the emissions unit then multiplying by 8760 hours/year then divide by 2000.

f. Emission Limitation:

The combined emissions from emissions units B027, B042, B043, B044, and B045 shall not exceed 84.99 tons per year of PE, 84.99 tons per year of PM10, 1,733.59 tons per year of SO<sub>2</sub>, 966.27 tons per year of NO<sub>x</sub>, 156.36 tons per year of CO, 57.55 tons per year of VOC and 1.32 tons per year of lead, on a rolling, 12-month summation of the emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section d)(5).

- (2) Within 180 days of the initial startup of emissions unit B043, the permittee shall conduct certification tests of the continuous NO<sub>x</sub> monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6 and ORC section 3704.03(l).

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency shall be notified 45 days prior to the initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the appropriate Ohio EPA District Office or local air agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR part 60, Appendix B, Performance Specification 2 and 6; ORC section 3704.03(l). The



letter/document of certification, or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO<sub>x</sub> monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Ongoing compliance with the NO<sub>x</sub> emissions limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR Part 60.

- (3) Compliance with the fuel limitation in term and condition c)(1) shall be demonstrated by the record keeping requirements specified in term and condition d)(1).
  - (4) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable testing requirements.
- g) Miscellaneous Requirements
- (1) None.



**4. B044, Boiler No. 9**

**Operations, Property and/or Equipment Description:**

Boiler #9, 225 mmBtu/hr boiler fired with natural gas, No.2 fuel oil and landfill gas.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) 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 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)	<p>The following emission limitations shall not be exceeded:</p> <p>When burning natural gas:</p> <p>Particulate emissions (PE) shall not exceed 0.0075 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.0075 lb/mmBtu of actual heat input*.</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.0006 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.082 lb/mmBtu of actual heat input*.</p> <p>When burning No.2 fuel oil:</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Particulate emissions (PE) shall not exceed 0.015 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.015 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.1 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.037 lb/mmBtu of actual heat input*.</p> <p>When burning landfill gas:</p> <p>Particulate emissions (PE) shall not exceed 0.030 lb/mmBtu of actual heat input*.</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.030 lb/mmBtu of actual heat input*.</p> <p>Sulfur Dioxide (SO2) emissions shall not exceed 0.06 lb/mmBtu of actual heat input.</p> <p>Nitrogen Oxides (NOx) emissions shall not exceed 0.20 lb/mmBtu of actual heat input, on a rolling 30-day average basis.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.082 lb/mmBtu of actual heat input*.</p> <p>The particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3) is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart DDDDD. The permittee shall comply with all applicable emission limitations (including any less</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>stringent emission limitation) after the compliance date in 40 CFR Part 63, Subpart DDDDD.</p> <p>*The emission limitations outlined above are based on the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with these limitations.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-21-08(B), OAC rule 3745-23-06(B), OAC rule 3745-31-05(C), 40 CFR Part 60 Subpart Db and 40 CFR Part 63, Subpart DDDDD.</p> <p>See c)(1) and c)(8).</p>
b.	<p>OAC rule 3745-31-05(C)            Synthetic Minor to Avoid Nonattainment New Source Review and Prevention of Significant Deterioration</p>	<p>Particulate emissions (PE) shall not exceed 84.99 tons per year.**</p> <p>Particulate Matter less than 10 microns in diameter (PM10) emissions shall not exceed 84.99 tons per year.**</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 1,733.59 tons per year.**</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 966.27 tons per year.**</p> <p>Carbon monoxide (CO) emissions shall not exceed 156.36 tons per year.**</p> <p>Volatile organic compound (VOC) emissions shall not exceed 57.55 tons per year.**</p> <p>Lead emissions shall not exceed 1.32 tons per year.**</p> <p>**as a rolling, 12-month summation from emissions units B027, B042, B043, B044, and B045, combined.</p> <p>See c)(2) through c)(7).</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emission from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-10(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-17-10(C)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-06(A)	This emissions unit is exempt from OAC rule 3745-18-06(D) and OAC rule 3745-18-37 during any calendar day in which natural gas is the only fuel burned.
g.	OAC rule 3745-18-06(D)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
h.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/mmBtu of actual heat input and 5.32 tons per year.</p> <p>Lead emissions shall not exceed .000009 lb/MMBtu and .0089 TPY.</p> <p>See b)(2)e.</p>
i.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)f.
j.	40 CFR Part 60, Subparts A and Db	<p>The nitrogen oxides (NO<sub>x</sub>) emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p> <p>Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 0.06 lb/mmBtu of actual heat input when firing No. 2 fuel oil or landfill gas.</p> <p>See b)(2)b. – b)(2)d. and c)(9).</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
k.	40 CFR Part 63, Subpart DDDDD (40 CFR Part 63.7480-7575)  National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters	Applicable Emission Limits in Tables 1 and 2; Work Practice Standards in Table 3 and Operating Limits in Table 4 to Subpart DDDDD of 40 CFR Part 63.  Pursuant to 40 CFR 63.7495(b), the permittee shall comply with this subpart no later than January 31, 2016, except as provided in 63.6(i).
l.	40 CFR Part 63.1-15 (40 CFR 63.7565)	Table 10 to 40 CFR Part 63, Subpart DDDDD – Applicability of General Provisions (Subpart A) to Subpart DDDDD shows which parts of the General Provisions in 40 CFR Part 63.1-15 apply.

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the emission limitations, the visible emission limitation and the use of low-NOx burners.
- b. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.
- c. The permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system, designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
- d. Pursuant to 40 CFR 60.48b(l), the permittee is not required to operate a COMS on emissions unit B044 provided that the unit burns only gaseous fuels and/or liquid fuels (excluding residue oil) with a potential SO<sub>2</sub> emissions rate no greater than 0.060 lb/MMBtu, and the unit operates according to the written site specific monitoring plan approved by the Southwest Ohio Air Quality Agency (SWOAQA).
- e. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that



BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not 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-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- f. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC and lead emissions from this air contaminant source since the uncontrolled potential to emit for VOC's and lead is less than 10 tons/year.

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.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas, No. 2 fuel oil or landfill gas in this emissions unit.
- (2) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[A_{B027} * 84 \text{ lb/mmscf} + B * 5.7 \text{ lb/mmscf} + C * 5 \text{ lb/kgal} + D * 0.5 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.082 \text{ lb/mmBtu} + G_{B042} + G_{B043} + G_{B044} + G_{B045}] / 2000 \text{ lbs/ton} \leq 156.36 \text{ tons of CO per 12-month rolling period}$$

Where:

- $A_{B027}$  = natural gas usage in B027 for the 12-month period (in mmscf);
- B = landfill gas usage in B027, B042, B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $G_{B0XX}$  = CO emissions for B042, B043, B044 or B045 calculated based on the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) and the applicable emission factors for No. 2 fuel oil from AP- 42 Section 1.3 (9/98), (in pounds);
- $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water).



The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (3) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A_{B027} + A_{B045}) * 100 \text{ lb/mm scf} + B * 33 \text{ lb/mm scf} + C * 47 \text{ lb/kgal} + D * 10 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.30 \text{ lb/mmBtu} + F * H_5 * 0.07 \text{ lb/mmBtu} + G_{B042} + G_{B043} + G_{B044}] / 2000 \text{ lb/ton} \leq 966.27 \text{ tons of NO}_x \text{ per 12-month rolling period}$$

Where:

- $A_{B0XX}$  = natural gas usage in B027 or B045 for the 12-month period (in mm scf);  
B = landfill gas usage in B027 for the 12-month period (in mm scf);  
C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);  
D = coal usage in B027 for the 12-month period (in tons);  
 $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);  
F = number 2 fuel oil usage in B045 for the 12-month period (in kgal);  
 $G_{B0XX}$  = NO<sub>x</sub> emissions for B042, B043, or B044 calculated based on data from NO<sub>x</sub> CEMS for the 12-month period (in pounds);  
 $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (9) = ester water, and (5) for No. 2 fuel oil] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, and mmBtu for No. 2 fuel oil).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (4) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A+B) * 5.5 \text{ lb/mm scf}] + (C + F_{B042} + F_{B043} + F_{B044} + F_{B045}) * 0.25 \text{ lb/kgal} + D * 0.06 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.0054 \text{ lb/mmBtu} / 2000 \text{ lbs/ton} \leq 57.55 \text{ tons of VOC per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mm scf);



- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal); and
- H<sub>i</sub> = heat content of tallow sludge, glycerin residue, fatty alcohol residue and ester water [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in mmBtu/lb as determined in section d)(11) for B027.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (5) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T * (D * H_8) + C * (150 * S_7) \text{ lb/kgal} + (A + B) * 0.60 \text{ lb/mmscf} + (F_{B042} + F_{B043} + F_{B044} + F_{B045}) * (142 * S_5) \text{ lb/kgal} + 2 \text{ lb SO}_2/\text{lb of Sulfur} * (E_1 * S_1 + E_2 * S_2 + E_3 * S_3 + E_9 * S_9)] / 2000 \text{ lbs/ton} \leq 1,733.59 \text{ tons of SO}_2 \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuels [(8) = coal] (in mmBtu/lb for in mmBtu/ton for coal);
- S<sub>i</sub> = sulfur content of each fuel (wt %) [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (7) = number 4 fuel oil and (9) = ester water]; and
- T = stack test results for SO<sub>2</sub> from most recent stack test for B027 (in lb/mmBtu).



The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (6) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T_{B027} * (E_{1,B027} * H_1 + E_{2,B027} * H_2 + E_{3,B027} * H_3 + E_{9,B027} * H_9 + C * H_7 + D * H_8)] + 7.6 \text{ lbs/mmscf} * (A + B) + 2 \text{ lbs/kgal} * (F_{B045} + F_{B044} + F_{B043} + F_{B042}) / 2000 \text{ lbs/ton} \leq 84.99 \text{ tons of PE/PM10 per 12-month rolling period}$$

Where:

- $A_{B0XX}$  = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- $B$  = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- $C$  = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- $D$  = coal usage in B027 for the 12-month period (in tons);
- $E_{i,B0XX}$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $F_{B0XX}$  = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (7) = number 4 fuel oil, (8) = coal and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/ton for coal and mmBtu/kgal for No. 4 fuel oil); and
- $T_{B027}$  = stack test results for PE and PM10 from most recent stack tests for B027 (in lb/mmBtu).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (7) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A + B) * 5.00E-04 \text{ lb/mmscf} + C * 1.51 \text{ E-03 lb/kgal} + D * H_8 * 5.07 \text{ E-04 lb/mmBtu} + F * H_5 * 9.00E-06 \text{ lb/mmBtu} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 9.00E-06 \text{ lb/mmBtu}] / 2000 \text{ lbs/ton} \leq 1.32 \text{ tons of lead per 12-month rolling period}$$

Where:



- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = total number 2 fuel oil usage in B042, B043, B044, and B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuel [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (8) = coal and (9) = ester water] in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/kgal for No. 2 fuel oil and in mmBtu/ton for coal.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (8) The permittee shall install, operate, and maintain low-NOx burners, that comply with the NOx emission limitations listed in term b)(1), at all times when operating this emissions unit.
- (9) The quality of the No. 2 fuel oil and landfill gas burned in this emissions unit shall have a combination of sulfur content and heat content sufficient to meet the sulfur dioxide emission limitation of 0.06 lb/mmBtu of actual heat input on an "as-received basis".
- (10) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable operational restrictions.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) For each day during which the permittee burns a fuel other than natural gas, No. 2 fuel oil or landfill gas the permittee shall maintain a record of the type and quantity of fuel burned in emissions unit B044.
- (2) The permittee may use fuel analysis reports from the supplier to determine the heating value of natural gas and landfill gas along with the sulfur content of landfill gas [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. Each gas fuel batch is defined by the most recent analysis received from the supplier(s). These analyses must be obtained at least quarterly when burned [see 40 CFR 60.48b(j)(2) and 40 CFR 60.49b(r)].



- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu.) [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F)]. The records shall also include certification from the fuel oil supplier that the oil meets the definition of very low sulfur distillate oil [see 40 CFR 60.49b(r)].

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

- (4) The permittee shall maintain monthly records of the following for each fuel batch-firing scenario burned in emissions unit B044:
- a. the quantity of each fuel burned (standard cubic feet of natural gas and landfill gas, gallons of No. 2 fuel oil);
  - b. the heat content of each fuel (in Btu/mmscf for natural gas and landfill gas, and mmBtu/kgal for No. 2 fuel oil).;
  - c. the sulfur content of No. 2 fuel oil and landfill gas (weight% or gr/100 dscf); and
  - d. the SO<sub>2</sub> emissions from each fuel (lb/mmBtu) calculated based on the sulfur and heat content analyses in sections d)(2) and d)(3).

A fuel batch firing scenario is defined as a combination of fuels burned with specific characteristics determined by the fuel sampling results. Therefore, a new fuel batch-firing scenario will begin when a new fuel batch analysis is received, and/or when there is a change in the fuel or combination of fuels burned in emissions unit B044.

- (5) The permittee shall collect and record the following information each month for emissions units B027, B042, B043, B044, and B045 combined:
- a. the emissions of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead for each month, in tons; and
  - b. the updated rolling, 12-month summation of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions, in tons. This shall include information for the current month and the preceding eleven calendar months.
- (6) The permittee shall install, operate, and maintain equipment to continuously monitor and record nitrogen oxides emissions from emissions unit B044 in pounds per mmBtu. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.



The permittee shall operate the continuous emissions monitoring system (CEMS) and record data during all periods of operation except for continuous monitoring systems breakdowns and repairs. Data shall be recorded during calibration checks, zero adjustments, and span adjustments.

The permittee shall operate the CEMS with a NO<sub>x</sub> span value of 500 ppm as specified in 40 CFR 60.48b(e)(2)(i) or as determined in accordance with 40 CFR 60.48b(e)(2)(ii).

- (7) Each CEMS consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- (8) The permittee shall maintain a certification letter from the Ohio EPA documenting that the NO<sub>x</sub> CEMS has been certified in accordance with the requirements of 40 CFR Part 60. The letter of certification shall be made available to the Director upon request.
- (9) When NO<sub>x</sub> emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using standby monitoring systems, U.S. EPA Method 7 or 7a of 40 CFR Part 60, Appendix A, or other approved reference methods to provide data for a minimum of 75% of the operating hours in a day, in at least 22 out of 30 successive days of operation.
- (10) The permittee shall maintain records of the following data obtained by the NO<sub>x</sub> CEMS for each operating day as specified in 40 CFR 60.49b(g):
  - a. calendar date;
  - b. emissions of nitrogen oxides in pounds per mmBtu actual heat input on an hourly average basis;
  - c. emissions of nitrogen oxides in pounds per mmBtu actual heat input on a rolling, 30-day average basis;
  - d. identification of all days where the rolling, 30-day average NO<sub>x</sub> emissions rate exceed the pound per mmBtu emission limitation, the reason for the excess emissions and a description of the corrective actions taken;
  - e. identification of operating days for which sufficient NO<sub>x</sub> emissions data has not been obtained, the reason for not obtaining sufficient data, and a description of the corrective actions taken;
  - f. identification of all periods of time which emissions data has been excluded from the calculation of the average emission rate and the reason for excluding the data;
  - g. a records of the "F" factor used in the calculation of the rolling, 30-day average NO<sub>x</sub> emission rate and the method used to determine the "F" factor;
  - h. identification of the times when NO<sub>x</sub> concentration exceeded the span of the continuous monitoring system;



- i. description of any modifications to the CEMS that could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3 of 40 CFR Part 60, Appendix B;
  - j. results of daily CEMS drift tests and quarterly accuracy assessments as required by Procedure 1 of 40 CFR Part 60, Appendix F; and
  - k. results of daily zero/span calibration checks and magnitude of manual calibration adjustments.
- (11) Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR 60, Appendix B, Performance Specification 2 for approval by the Ohio EPA, Central Office.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (12) Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system, designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

- (13) The permittee shall maintain all of the records specified in the Emery Site Specific Monitoring Plan, dated November 20, 2012, submitted pursuant to 40 CFR Part 60.45b(l).
- (14) This emissions unit shall be operated and maintained in accordance with the manufacturer's recommendations. The permittee shall maintain records verifying that necessary maintenance activities have been performed on this emissions unit.
- (15) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable monitoring and record keeping requirements.

e) Reporting Requirements

- (1) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the calculated sulfur dioxide emission rates from Section



d)(2) and d)(3) above. The notification shall include a copy of such record and shall be sent to the within 45 days after the deviation occurs.

- (2) The permittee shall submit quarterly deviation (excursion) reports to the Southwest Ohio Air Quality Agency which identify all exceedances of the rolling, 12-month summation of PE, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions for each calendar month for emissions units B027, B042, B043, B044, and B045 combined. If no deviations occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
- (3) The deviation reports shall be submitted in accordance with the requirements specified in Part A - Standard Term and Condition 4.c)(2) of this permit.
- (4) Pursuant to the NSPS and NESHAP, the permittee is hereby advised of the requirement to report the following at the appropriate times:
  - a. construction date (no later than 30 days after such date);
  - b. actual start-up date (within 15 days after such date); and
  - c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Southwest Ohio Air Quality Agency  
250 William Howard Taft Road  
Cincinnati, Ohio 45219

- (5) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any fuel burned in this emissions unit other than natural gas, No. 2 fuel oil or landfill gas. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
- (6) The permittee shall submit a quarterly report containing the information included in Section d)(10) above.
- (7) The quarterly report shall also document any continuous NO<sub>x</sub> CEMS downtime while emissions unit B044 was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit B044 operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit B044 and control equipment malfunctions. The total operating time of emissions unit B044 and the total operating time of the analyzer while emissions unit B044, and the total minutes of operating and downtime of emissions unit B044, was on line shall also be included in the quarterly report.
- (8) The permittee shall submit quarterly reports to the Southwest Ohio Air Quality Agency documenting the date, commencement and completion times, duration, magnitude,



reason (if known), and corrective actions taken (if any), of all instances when the calculated 30-day rolling average NOx emission rate exceeds the applicable limitations specified in the terms and conditions of this permit during the previous calendar quarter.

If there are no excess emissions during the previous calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

- (9) The permittee shall submit quarterly reports as specified in the Emery Site Specific Monitoring Plan, dated November 20, 2012, submitted pursuant to 40 CFR Part 60.45b(l). These reports shall be submitted as specified under 40 CFR Part 60.49b(h).
- (10) The permittee shall submit annual reports which specify the total PE, PM10, SO2, NOx, VOC, CO and lead emissions from this emissions unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
- (11) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable reporting requirements.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitations:
    - When burning natural gas, this emissions unit shall not exceed:
      - 0.0075 pound of PE/mmBtu;
      - 0.0075 pound of PM10/mmBtu;
      - 0.0006 pound of SO2/mmBtu; and
      - 0.082 pound of CO/mmBtu.
    - When burning No.2 fuel oil, this emissions unit shall not exceed:
      - 0.015 pound of PE/mmBtu;
      - 0.015 pound of PM10/mmBtu; and
      - 0.037 pound of CO/mmBtu.



When burning landfill gas, this emissions unit shall not exceed:

0.082 pound of CO/mmBtu

Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by multiplying the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) by 1 ft<sup>3</sup>/1020 Btu and the applicable emission factors for No. 2 fuel oil from AP-42 Section 1.3 (9/98) by 1000 gal/140 mmBtu.

If required, the permittee shall demonstrate compliance with the PE, PM10, SO<sub>2</sub> (natural gas) and CO lb/mmBtu emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, 5, 6, 10, 25 and 201.

b. Emissions Limitations:

0.10 pound of NO<sub>x</sub>/mmBtu, when burning natural gas, on a rolling 30-day average basis; and

0.10 pound of NO<sub>x</sub>/mmBtu, when burning No. 2 fuel oil, on a rolling 30-day average.

0.20 pound of NO<sub>x</sub>/mmBtu, when burning landfill gas, on a rolling 30-day average.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the lb/mmBtu of NO<sub>x</sub> emission limitations based upon the results of the emissions tests required in Section f)(2) and the record keeping requirements in Section d)(10).

c. Emission Limitation:

When burning No.2 fuel oil or landfill gas this emissions unit shall not exceed: 0.06 pound of SO<sub>2</sub>/mmBtu of actual heat input.

Applicable Compliance Method:

For fuel oil:  $ER = (1 \times 10^6) / H \times D \times S \times 1.974$  where:

ER = the emission rate in pounds of sulfur dioxide per MM Btu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.



For landfill gas:  $ER = (1 \times 10^6)/H \times D \times S \times 1.998$  where:

ER = the emission rate in pounds of sulfur dioxide per MM Btu;

H = the heat content of the gaseous fuel in Btu per standard cubic foot;

D = the density of the gaseous fuel in pounds per standard cubic foot; and

S = the decimal fraction of sulfur in the gaseous fuel.

Compliance with the lb/mmBtu emission limitations shall be based upon the record keeping requirements in Sections d)(2) - d)(4).

If required, the permittee shall demonstrate compliance with the lb/mmBtu emissions limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6.

d. Emission Limitation:

Visible particulate emission from the emissions unit B044 stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

VOC emissions shall not exceed 0.0054 lb/mmBtu and 5.32 TPY.

Lead emissions shall not exceed 0.000009 lb/mmBtu and 0.0089 TPY.

Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by using the applicable VOC and lead emission factors from AP-42 for the worst case fuel burned in this emissions unit.

The annual emission limitations are determined by multiplying the lb/mmBtu emission limitation by the mmBtu/hr rating of the emissions unit then multiplying by 8760 hours/year then divide by 2000.

f. Emission Limitation:

The combined emissions from emissions units B027, B042, B043, B044, and B045 shall not exceed 84.99 tons per year of PE, 84.99 tons per year of PM10, 1,733.59 tons per year of SO<sub>2</sub>, 966.27 tons per year of NO<sub>x</sub>, 156.36 tons per year of CO, 57.55 tons per year of VOC and 1.32 tons per year of lead, on a rolling, 12-month summation of the emissions.



Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section d)(5).

g. Emission Limitation:

Particulate emissions shall not exceed 0.030 pound per mmBtu of actual heat input when burning landfill gas.

PM10 emissions shall not exceed 0.030 pound per mmBtu of actual heat input when burning landfill gas.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the lb/mmBtu of PM10 emissions limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 201.

- (2) Within 180 days of the initial startup of emissions unit B044, the permittee shall conduct certification tests of the continuous NO<sub>x</sub> monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6 and ORC section 3704.03(l).

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency shall be notified 45 days prior to the initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the appropriate Ohio EPA District Office or local air agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR part 60, Appendix B, Performance Specification 2 and 6; ORC section 3704.03(l). The letter/document of certification, or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO<sub>x</sub> monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Ongoing compliance with the NO<sub>x</sub> emissions limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR Part 60.

- (3) Compliance with the fuel limitation in term and condition c)(1) shall be demonstrated by the record keeping requirements specified in term and condition d)(1).



**Final Permit-to-Install**  
Emery Oleochemicals LLC  
**Permit Number:** P0109124  
**Facility ID:** 1431074278  
**Effective Date:** 7/17/2013

- (4) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable testing requirements.
- g) Miscellaneous Requirements
  - (1) None.



**5. B045, Boiler No. 10**

**Operations, Property and/or Equipment Description:**

Boiler #10, 75 mmBtu/hr boiler fired with natural gas or No. 2 fuel oil

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) 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 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)	<p>The following emission limitations shall not be exceeded:</p> <p>When burning natural gas:</p> <p>Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 0.0006 lb/mmBtu of actual heat input*.</p> <p>Nitrogen Oxides (NO<sub>x</sub>) emissions shall not exceed 0.07 lb/mmBtu of actual heat input.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.082 lb/mmBtu of actual heat input*.</p> <p>When burning No.2 fuel oil:</p> <p>Nitrogen Oxides (NO<sub>x</sub>) emissions shall not exceed 0.07 lb/mmBtu of actual heat input.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.037 lb/mmBtu of actual heat input*.</p> <p>The particulate emission limitation established pursuant to OAC rule 3745-</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>31-05(A)(3) is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart DDDDD. The permittee shall comply with all applicable emission limitations (including any less stringent emission limitation) after the compliance date in 40 CFR Part 63, Subpart DDDDD.</p> <p>*The emission limitations outlined above are based on the emission unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with these limitations.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-21-08(B), OAC rule 3745-23-06(B), OAC rule 3745-31-05(C), OAC rule 3745-17-10(B), 40 CFR Part 60 Subpart Dc and 40 CFR Part 63, Subpart DDDDD.</p> <p>See c)(1) and c)(8).</p>
b.	<p>OAC rule 3745-31-05(C)          Synthetic Minor to Avoid Nonattainment New Source Review and Prevention of Significant Deterioration</p>	<p>Particulate emissions (PE) shall not exceed 84.99 tons per year.**</p> <p>Particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 84.99 tons per year.**</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 1,733.59 tons per year.**</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 966.27 tons per year.**</p> <p>Carbon monoxide (CO) emissions shall not exceed 156.36 tons per year.**</p> <p>Volatile organic compound (VOC) emissions shall not exceed 57.55 tons per year.**</p> <p>Lead emissions shall not exceed 1.32 tons per year.**</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>**as a rolling, 12-month summation from emissions units B027, B042, B043, B044, and B045, combined.</p> <p>See c)(2) through c)(7).</p>
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emission from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-10(B)(1)	The particulate emissions (PE) shall not exceed 0.020 pound of particulate emissions per million Btu of actual heat input.
e.	OAC rule 3745-18-06(A)	This emissions unit is exempt from OAC rule 3745-18-06(D) and OAC rule 3745-18-37 during any calendar day in which natural gas is the only fuel burned.
f.	OAC rule 3745-18-06(D)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
g.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Particulate emissions (PE) and Particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 0.020 lb/mmBtu of actual heat input and 6.57 tons per year.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 0.0054 lb/mmBtu of actual heat input and 1.77 tons per year.</p> <p>Lead emissions shall not exceed .000009 lb/MMBtu and .00296 TPY.</p> <p>See b)(2)d.</p>
h.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)e.
i.	40 CFR Part 60, Subparts A and Dc	<p>Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed 0.06 lb/mmBtu of actual heat input, when firing No. 2 fuel oil.</p> <p>See term and condition b)(2)b. and b)(2)c.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
j.	40 CFR Part 63, Subpart DDDDD (40 CFR Part 63.7480-7575)  National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters.	Applicable Emission Limits in Tables 1 and 2; Work Practice Standards in Table 3 and Operating Limits in Table 4 to Subpart DDDDD of 40 CFR Part 63.  Pursuant to 40 CFR 63.7495(b), the permittee shall comply with this subpart no later than January 31, 2016, except as provided in 63.6(i).
k.	40 CFR Part 63.1-15 (40 CFR 63.7565)	Table 10 to 40 CFR Part 63, Subpart DDDDD – Applicability of General Provisions (Subpart A) to Subpart DDDDD shows which parts of the General Provisions in 40 CFR Part 63.1-15 apply.

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the emission limitations, the visible emissions limitation, the use of natural gas and/or very low sulfur No. 2 fuel oil, and the use of low-NOx burners.
- b. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.
- c. Pursuant to 40 CFR 60.47c(c), emissions unit B045 is not subject to the particulate matter (PM) emissions limitations and monitoring requirements of 40 CFR 60.43c when firing liquid or gaseous fuels with potential sulfur dioxide emission rate of 0.06 lb/mmBtu heat input or less without using a post-combustion control technology.
- d. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not 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-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- e. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions from this air contaminant source since the calculated annual emission rate for particulate emissions is less than ten tons per year taking into account the federally enforceable rule limitation of 0.020 pound of particulate emissions per million Btu of actual heat input under OAC rule 3745-17-10(B)(1). Additionally, the Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC, PM10 and lead emissions from this air contaminant source since the uncontrolled potential to emit for VOC's and PM10 is less than 10 tons/year.

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.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas or No. 2 fuel oil in this emissions unit.
- (2) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[A_{B027} * 84 \text{ lb/mm}^2\text{scf} + B * 5.7 \text{ lb/mm}^2\text{scf} + C * 5 \text{ lb/kgal} + D * 0.5 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.082 \text{ lb/mm}^2\text{Btu} + G_{B042} + G_{B043} + G_{B044} + G_{B045}]/2000 \text{ lbs/ton} \leq 156.36 \text{ tons of CO per 12-month rolling period}$$

Where:

- $A_{B027}$  = natural gas usage in B027 for the 12-month period (in mmscf);
- B = landfill gas usage in B027, B042, B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- $E_i$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $G_{B0XX}$  = CO emissions for B042, B043, B044 or B045 calculated based on the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) and the applicable emission factors for No. 2 fuel oil from AP- 42 Section 1.3 (9/98), (in pounds);
- $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water).



The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (3) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A_{B027} + A_{B045}) * 100 \text{ lb/mm scf} + B * 33 \text{ lb/mm scf} + C * 47 \text{ lb/kgal} + D * 10 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.30 \text{ lb/mmBtu} + F * H_5 * 0.07 \text{ lb/mmBtu} + G_{B042} + G_{B043} + G_{B044}] / 2000 \text{ lb/ton} \leq 966.27 \text{ tons of NO}_x \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = natural gas usage in B027 or B045 for the 12-month period (in mm scf);
- B = landfill gas usage in B027 for the 12-month period (in mm scf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = number 2 fuel oil usage in B045 for the 12-month period (in kgal);
- G<sub>B0XX</sub> = NO<sub>x</sub> emissions for B042, B043, or B044 calculated based on data from NO<sub>x</sub> CEMS for the 12-month period (in pounds);
- H<sub>i</sub> = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (9) = ester water, and (5) = No. 2 fuel oil] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, and mmBtu/kgal for No. 2 fuel oil).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (4) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A+B) * 5.5 \text{ lb/mm scf}] + (C + F_{B042} + F_{B043} + F_{B044} + F_{B045}) * 0.25 \text{ lb/kgal} + D * 0.06 \text{ lb/ton} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 0.0054 \text{ lb/mmBtu}] / 2000 \text{ lb/ton} \leq 57.55 \text{ tons of VOC per 12-month rolling period}$$

Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mm scf);



- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal); and
- H<sub>i</sub> = heat content of tallow sludge, glycerin residue, fatty alcohol residue and ester water [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in mmBtu/lb as determined in section d)(11) for B027.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (5) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T * (D * H_8) + C * (150 * S_7) \text{ lb/kgal} + (A + B) * 0.60 \text{ lb/mmscf} + (F_{B042} + F_{B043} + F_{B044} + F_{B045}) * (142 * S_5) \text{ lb/kgal} + 2 \text{ lb SO}_2/\text{lb of Sulfur} * (E_1 * S_1 + E_2 * S_2 + E_3 * S_3 + E_9 * S_9)] / 2000 \text{ lb/ton} \leq 1,733.59 \text{ tons of SO}_2 \text{ per 12-month rolling period}$$

Where:

- A<sub>B0XX</sub> = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F<sub>B0XX</sub> = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuels [(8) = coal] (in mmBtu/lb for in mmBtu/ton for coal);
- S<sub>i</sub> = sulfur content of each fuel (wt %) [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (7) = number 4 fuel oil and (9) = ester water]; and
- T = stack test results for SO<sub>2</sub> from most recent stack test for B027 (in lb/mmBtu).



The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (6) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[T_{B027} * (E_{1,B027} * H_1 + E_{2,B027} * H_2 + E_{3,B027} * H_3 + E_{9,B027} * H_9 + C * H_7 + D * H_8)] + 7.6 \text{ lbs/mmscf} * (A + B) + 2 \text{ lbs/kgal} * (F_{B045} + F_{B044} + F_{B043} + F_{B042}) / 2000 \text{ lbs/ton} \leq 84.99 \text{ tons of PE/PM10 per 12-month rolling period}$$

Where:

- $A_{B0XX}$  = total natural gas usage in B027, B042, B043, B044, or B045 for the 12-month period (in mmscf);
- $B$  = total landfill gas usage in B027, B042 or B044 for the 12-month period (in mmscf);
- $C$  = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- $D$  = coal usage in B027 for the 12-month period (in tons);
- $E_{i,B0XX}$  = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- $F_{B0XX}$  = number 2 fuel oil usage in B042, B043, B044, or B045 for the 12-month period (in kgal);
- $H_i$  = heat content of fuels [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (7) = number 4 fuel oil, (8) = coal and (9) = ester water] (in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/ton for coal and mmBtu/kgal for No. 4 fuel oil); and
- $T_{B027}$  = stack test results for PE and PM10 from most recent stack tests for B027 (in lb/mmBtu).

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (7) The total fuel usage in emissions units B027, B042, B043, B044, and B045 is restricted by the following formula:

$$[(A + B) * 5.00E-04 \text{ lb/mmscf} + C * 1.51 E-03 \text{ lb/kgal} + D * H_8 * 5.07 E-04 \text{ lb/mmBtu} + F * H_5 * 9.00E-06 \text{ lb/mmBtu} + (E_1 * H_1 + E_2 * H_2 + E_3 * H_3 + E_9 * H_9) * 9.00E-06 \text{ lb/mmBtu}] / 2000 \text{ lb/ton} \leq 1.32 \text{ tons of lead per 12-month rolling period}$$



Where:

- A = total natural gas usage in B027, B042, B043, B044, and B045 for the 12-month period (in mmscf);
- B = total landfill gas usage in B027, B042, and B044 for the 12-month period (in mmscf);
- C = number 4 fuel oil usage in B027 for the 12-month period (in kgal);
- D = coal usage in B027 for the 12-month period (in tons);
- E<sub>i</sub> = liquid residue usage [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue and (9) = ester water] in B027 for the 12-month period (in lbs);
- F = total number 2 fuel oil usage in B042, B043, B044, and B045 for the 12-month period (in kgal);
- H<sub>i</sub> = heat content of fuel [(1) = tallow sludge, (2) = glycerin residue, (3) = fatty alcohol residue, (5) = number 2 fuel oil, (8) = coal and (9) = ester water] in mmBtu/lb for tallow sludge, glycerin residue, fatty alcohol residue and ester water, in mmBtu/kgal for No. 2 fuel oil and in mmBtu/ton for coal.

The permittee shall maintain monthly records of the 12-month summation of the fuel usage rates.

The permittee has existing records to generate the rolling, 12-month summation of the fuel usage rate, upon issuance of this permit.

- (8) The permittee shall install, operate, and maintain low-NOx burners, that comply with the NOx emission limitations listed in term b)(1) at all times when operating this emissions unit.
- (9) The quality of the No. 2 fuel oil burned in this emissions unit shall have a combination of sulfur content and heat content sufficient to meet the sulfur dioxide emission limitation of 0.06 lb/mmBtu of actual heat input on an "as-received basis".

d) **Monitoring and/or Recordkeeping Requirements**

- (1) For each day during which the permittee burns a fuel other than natural gas and/or No. 2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in emission unit B045.
- (2) The permittee may use fuel analysis reports from the supplier to determine the heating value of natural gas. Each natural gas fuel batch is defined by the most recent analysis received from the supplier(s). These analyses must be obtained at least once every quarter.
- (3) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu.) [The sulfur dioxide emission rate shall be calculated in accordance



with the formula specified in OAC rule 3745-18-04(F)]. The records shall also include certification from the fuel oil supplier that the oil meets the definition of very low sulfur distillate oil [see 40 CFR 60.49b(r)].

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

- (4) The permittee shall maintain monthly records of the following:
    - a. the quantity of each fuel burned (standard cubic feet of natural gas, gallons of no. 2 fuel oil);
    - b. the heat content of each fuel (Btu per standard cubic feet, Btu per gallon);
    - c. the sulfur content of fuel oil(weight%); and
    - d. the SO<sub>2</sub> emissions from each fuel (lb/mmBtu) calculated based on the sulfur and heat content analyses in sections d)(2) and d)(3).
  - (5) The permittee shall collect and record the following information each month for emissions units B027, B042, B043, B044, and B045 combined:
    - a. the emissions of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead for each month, in tons; and
    - b. the updated rolling, 12-month summation of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions, in tons. This shall include information for the current month and the preceding eleven calendar months.
  - (6) This emissions unit shall be operated and maintained in accordance with the manufacturer's recommendations. The permittee shall maintain records verifying that necessary maintenance activities have been performed on this emissions unit.
  - (7) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable monitoring and record keeping requirements.
- e) Reporting Requirements
- (1) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation and/or sulfur content limitation based upon the calculated sulfur dioxide emission rates from Section d)(2) and d)(3) above. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
  - (2) The permittee shall submit quarterly deviation (excursion) reports to the Southwest Ohio Air Quality Agency which identify all exceedances of the rolling, 12-month summation of PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC and lead emissions for each calendar month for



emissions units B027, B042, B043, B044, and B045 combined. If no deviations occurred during the reporting period, the permittee shall state so in the report. The permittee shall submit the reports by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).

- (3) The deviation reports shall be submitted in accordance with the requirements specified in Part A - Standard Term and Condition 4.c)(2) of this permit.
  - (4) The permittee shall notify the Southwest Ohio Air Quality Agency in writing of any fuel burned in this emissions unit other than natural gas or No. 2 fuel oil. The notification shall include a copy of such record and shall be sent to the Southwest Ohio Air Quality Agency within 45 days after the deviation occurs.
  - (5) The permittee shall submit annual reports which specify the total PE, PM10, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO and lead emissions from this emissions unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
  - (6) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable reporting requirements.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emission Limitations:

When burning natural gas, this emissions unit shall not exceed:  
0.0006 pound of SO<sub>2</sub>/mmBtu; and  
0.082 pound of CO/mmBtu.

When burning No.2 fuel oil, this emissions unit shall not exceed:  
0.037 pound of CO/mmBtu.

Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by multiplying the applicable emission factors for natural gas from AP-42, Section 1.4 (7/98) by 1 ft<sup>3</sup>/1020 Btu and the applicable emission factors for No. 2 fuel oil from AP-42 Section 1.3 (9/98) by 1000 gal/140 mmBtu.



If required, the permittee shall demonstrate compliance with the SO<sub>2</sub> (natural gas) and CO lb/mmBtu emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, 6 and 10.

b. Emission Limitations:

0.07 pound of NO<sub>x</sub>/mmBtu, when burning natural gas or No. 2 fuel oil.

Applicable Compliance Method:

The pound/mmBtu limitation specified above is based upon the emission unit's potential to emit which is based on the manufacturer's guaranteed NO<sub>x</sub> emission rate.

If required, the permittee shall demonstrate compliance with the NO<sub>x</sub> lb/mmBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 7.

c. Emission Limitation:

When burning No.2 fuel oil, this emissions unit shall not exceed:

0.06 pound of SO<sub>2</sub>/mmBtu of actual heat input.

Applicable Compliance Method:

For fuel oil:  $ER = (1 \times 10^6) / H \times D \times S \times 1.974$  where:

ER = the emission rate in pounds of sulfur dioxide per MM Btu;

H = the heat content of the liquid fuel in Btu per gallon;

D = the density of the liquid fuel in pounds per gallon; and

S = the decimal fraction of sulfur in the liquid fuel.

Compliance with the lb/mmBtu emission limitations shall be based upon the record keeping requirements in Sections d)(3) and d)(4).

If required, the permittee shall demonstrate compliance with the lb/mmBtu emissions limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4, and 6.

d. Emission Limitation:

Visible particulate emission from the Emissions unit B045 stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.



Applicable compliance method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

PE/PM10 emissions shall not exceed 0.020 lb/mmBtu and 6.57 TPY.

VOC emissions shall not exceed 0.0054 lb/mmBtu and 5.32 TPY when burning natural gas.

Lead emissions shall not exceed 0.000009 lb/mmBtu and 0.0089 TPY when burning No. 2 fuel oil.

Applicable Compliance Method:

The pound/mmBtu limitations specified above are based upon the emission unit's potential to emit and are determined by using the applicable PE/PM10, VOC and lead emission factors from AP-42 for the worst case fuel burned in this emissions unit.

The annual emission limitations are determined by multiplying the lb/mmBtu emission limitation by the mmBtu/hr rating of the emissions unit then multiplying by 8760 hours/year then divide by 2000.

f. Emission Limitation:

The combined emissions from emissions units B027, B042, B043, B044, and B045 shall not exceed 84.99 tons per year of PE, 84.99 tons per year of PM10, 1,733.59 tons per year of SO<sub>2</sub>, 966.27 tons per year of NO<sub>x</sub>, 156.36 tons per year of CO, 57.55 tons per year of VOC and 1.32 tons per year of lead, on a rolling, 12-month summation of the emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section d)(5).

(2) Compliance with the fuel limitation in term and condition c)(1) shall be demonstrated by the record keeping requirements specified in term and condition d)(1).

(3) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) for applicable testing requirements.

g) Miscellaneous Requirements

(1) None.