



John R. Kasich, Governor  
 Mary Taylor, Lt. Governor  
 Craig W. Butler, Director

9/21/2016

Certified Mail

Mr. Albert Benavides  
 Clean Harbors Environmental Services, Inc.  
 2900 Rockefeller Ave.  
 Cleveland, OH 44115-3610

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318006093  
 Permit Number: P0120938  
 Permit Type: Renewal  
 County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

**How to appeal this permit**

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

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

## **How to save money, reduce pollution and reduce energy consumption**

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

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

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.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.

## **What should you do if you notice a spill or environmental emergency?**

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

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

Sincerely,



Michael E. Hopkins, P.E.  
Assistant Chief, Permitting Section, DAPC

Cc: CDAQ



## Response to Comments

Facility ID:	1318006093
Facility Name:	Clean Harbors Environmental Services, Inc.
Facility Description:	Hazardous and industrial waste recycling operation.
Facility Address:	2900 ROCKEFELLER AVE Cleveland, OH 44115 Cuyahoga County
Permit:	P0120938, Permit-To-Install and Operate - Renewal
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Plain Dealer on 08/17/2016. The comment period ended on 09/16/2016.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. **Topic: None**
  - a. Comment: None
  - b. Response: None





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Clean Harbors Environmental Services, Inc.**

Facility ID:	1318006093
Permit Number:	P0120938
Permit Type:	Renewal
Issued:	9/21/2016
Effective:	9/21/2016
Expiration:	9/21/2021





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
Clean Harbors Environmental Services, Inc.

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**Final Permit-to-Install and Operate**  
Clean Harbors Environmental Services, Inc.  
**Permit Number:** P0120938  
**Facility ID:** 1318006093  
**Effective Date:** 9/21/2016

## Authorization

Facility ID: 1318006093  
Application Number(s): A0056187, A0056188  
Permit Number: P0120938  
Permit Description: FEPTIO renewal permit for two 8,000-gallon oxidation/reduction reactors (P003 and P004) with two (2) 400 ACFM scrubbers for removal of ammonia and SO<sub>2</sub>; and one 3,000 cubic foot storage silo for lime, hydrated lime, or calcium oxide with a 65 cubic foot surge hopper, two small hoppers, rotary feeders and pneumatic conveyor system (P006), controlled by a fabric filter baghouse at the Clean Harbors Environmental Services wastewater treatment plant.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 9/21/2016  
Effective Date: 9/21/2016  
Expiration Date: 9/21/2021  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Clean Harbors Environmental Services, Inc.  
2900 ROCKEFELLER AVE  
Cleveland, OH 44115

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

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

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



## Authorization (continued)

Permit Number: P0120938

Permit Description: FEPTIO renewal permit for two 8,000-gallon oxidation/reduction reactors (P003 and P004) with two (2) 400 ACFM scrubbers for removal of ammonia and SO<sub>2</sub>; and one 3,000 cubic foot storage silo for lime, hydrated lime, or calcium oxide with a 65 cubic foot surge hopper, two small hoppers, rotary feeders and pneumatic conveyor system (P006), controlled by a fabric filter baghouse at the Clean Harbors Environmental Services wastewater treatment plant.

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>P006</b>
Company Equipment ID:	Storage Silo
Superseded Permit Number:	P0094528
General Permit Category and Type:	Not Applicable

**Group Name: Reduction Reactors**

<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	Oxidation/Reduction reactor #1
Superseded Permit Number:	P0094529
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P004</b>
Company Equipment ID:	Oxidation/Reduction reactor #2
Superseded Permit Number:	P0094529
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install and Operate**  
Clean Harbors Environmental Services, Inc.  
**Permit Number:** P0120938  
**Facility ID:** 1318006093  
**Effective Date:** 9/21/2016

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

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

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

**2. Who is responsible for complying with this permit?**

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

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

**3. What records must I keep under this permit?**

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

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

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

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

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

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

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

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

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

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

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

**7. What reports must I submit under this permit?**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



**Final Permit-to-Install and Operate**  
Clean Harbors Environmental Services, Inc.  
**Permit Number:** P0120938  
**Facility ID:** 1318006093  
**Effective Date:** 9/21/2016

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



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



**Final Permit-to-Install and Operate**  
Clean Harbors Environmental Services, Inc.  
**Permit Number:** P0120938  
**Facility ID:** 1318006093  
**Effective Date:** 9/21/2016

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

**1. P006, Storage Silo**

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

3,000 cubic foot storage silo for lime, hydrated lime, or calcium oxide with a 65 cubic foot serge hopper, two small hoppers, rotary feeders and pneumatic conveyor system. Controlled by a fabric filter baghouse.

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit 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)	Particulate emissions (PE) shall not exceed 0.26 pound per hour and 1.2 TPY. See b)(2)a. and b)(2)b. below.
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

- (2) Additional Terms and Conditions
  - a. This emissions unit shall be controlled with an 800 acfm fabric filter baghouse for the lime silo and a small fabric filter baghouse for the 65 cubic foot surge hopper.
  - b. Visible particulate emissions shall not exceed five percent (5%) opacity as a six minute average from any exhaust gases from this operation.
- c) Operational Restrictions
  - (1) None.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
    - a. the color of the emissions;
    - b. the total duration of any visible emissions incident; and
    - c. any corrective actions taken to eliminate the visible emissions.
  - (2) The permittee shall keep the following information on a monthly basis:
    - a. amount of lime added to the silo and hopper, separately (in pounds); and
    - b. hours of operation of the silo and hopper separately.
- e) Reporting Requirements
  - (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Cleveland Division of Air Quality (Cleveland DAQ), and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. PER forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in d)(1) above:
- all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - any corrective actions taken to eliminate the visible particulate emissions.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
- Emission Limitation:  
Particulate emissions (PE) shall not exceed 0.26 lb/hr (as a monthly average).

Applicable Compliance Method:  
Compliance shall be determined based on the data in d)(2) according to the following formula:

$$\text{lb/hr PE} = \text{d)(2)a} / \text{d)(2)b} * \text{EF} * (1 - \text{FE})$$

EF = emission factor of 2.2 lbs/2,000 lbs lime  
FE = filter efficiency (99.2%)

Emission factor is from AP-42 "*Compilation of Air Pollutant Emission Factors*" table 11.17-4 for product transfer and conveying.
  - Emission Limitation:  
Particulate emissions (PE) shall not exceed 1.2 TPY.

Applicable Compliance Method:  
The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 lbs per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pound per hour limitation.
  - Emission Limitation:  
Visible particulate emissions shall not exceed 5% opacity as a six-minute average.



**Final Permit-to-Install and Operate**  
Clean Harbors Environmental Services, Inc.  
**Permit Number:** P0120938  
**Facility ID:** 1318006093  
**Effective Date:** 9/21/2016

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) This emissions unit was installed in 1994.
- (2) Superseded permits include PTI 13-2099 issued final 8/29/1990; State PTO P0055759 issued final 9/23/1994; and P0094528 issued final 6/8/2011.

**2. Emissions Unit Group - Reduction Reactors: P003, P004**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P003	8,000-gallon reactor treats wastewater to remove heavy metals and ammonia, destroy cyanide, reduce phenol and neutralize acids and bases. Controlled by wet scrubber.
P004	8,000-gallon reactor treats wastewater to remove heavy metals and ammonia, destroy cyanide, reduce phenol and neutralize acids and bases. Controlled by wet scrubber.

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

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

a. None.

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

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

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.

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-31-05(A)(3)	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 2.25 lbs/hr and 9.86 TPY.  Ammonia (NH <sub>3</sub> ) emissions shall not exceed 4.5 lbs/hr and 19.71 TPY.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity as a six minute average, except as provided by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The particulate emission limit required by this rule is less stringent than the particulate emission limit (as NH <sub>3</sub> ) established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to avoid Title V	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(A)(3).  See c)(1) through c)(4) below.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

- (1) Each reactor shall be equipped with a 400 acfm packed tower scrubber to control all emissions at all times. A 50% sodium hydroxide solution shall be used to make up the scrubbing solution to control the sulfur dioxide emissions, whenever the sodium metabisulfite (Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub>) compound is used for treatment of industrial wastewater. Each scrubber shall achieve a minimum SO<sub>2</sub> emissions control efficiency of 95% by weight and a minimum ammonia emissions control efficiency of 98% by weight. Only clean city water shall be used in the make-up of the alkaline scrubbing solution.
- (2) A city water flow through system shall be used to control the ammonia (NH<sub>3</sub>) emissions, whenever NH<sub>3</sub> is removed from industrial wastewater.
- (3) Each reactor when using sodium metabisulfite (reactant) to oxidize hexavalent chromium is limited to 1,120 pounds of reactant per hour, as a monthly average, in the reactor.
- (4) The permittee shall operate and maintain the scrubber system according to good engineering practices including but not limited to sufficient water or alkaline scrubbing solutions flow rate, and sufficient air flow rate to achieve the emission removal efficiencies required in this permit.
- (5) The exhaust stacks for the emissions units shall be at least 35 feet in height.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate the scrubber at all times in accordance with the following parameters:
  - a. shall use not less than 10 gallons per minute of recirculating water or solution volume;

- b. shall have a water column pressure drop of not less than 2 inches across the scrubber air side; and
  - c. shall maintain an alkalinity of pH of no less than 9 in the scrubbing solution to control sulfur dioxide emissions.
- (2) The permittee shall properly operate, and maintain equipment to continuously monitor the pressure drop across the scrubber (in pounds per square inch, gauge), the scrubber liquid flow rate (in gallons per minute), and the scrubber liquid pH during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the pressure drop across the scrubber and the scrubber liquid's pH and flow rate on daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

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

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

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

These limits/ranges for the pressure drop, liquid flow rate, and pH are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit/range for the pressure drop, liquid flow rate, or pH based upon information obtained during future performance tests that demonstrate compliance with the allowable SO<sub>2</sub> or NH<sub>3</sub> emission rate for these emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (3) The permittee shall collect and record the following information each month for this emission unit:
  - a. concentrations (pounds/batch) of ammonia and chromium in industrial wastewater sent to the reactors;
  - b. operating hours of the reactor when used for ammonia removal;
  - c. operating hours of the reactor when using sodium metabisulfite to reduce hexavalent chromium;
  - d. amount of sodium metabisulfite used for chromium reduction, in pounds; and
  - e. the average hourly sodium metabisulfite usage rate, in lbs/hr, (d/c).

e) Reporting Requirements

- (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the Cleveland Division of Air Quality (Cleveland DAQ), and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
  - i. Scrubber operating parameters:
    - (a) 10 gal/min; 2 inch pressure drop; and pH of 9 or greater;
    - (b) each period of time (start time and date, and end time and date) when the pressure drop across the scrubber, the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit; and
    - (c) any period of time (start time and date, and end time and date) when the emissions units were in operation and the process emissions were not vented to the scrubber.
  - ii. Reduction reactant lbs/hour limit:
    - (a) 1,120 lbs/hr sodium metabisulfite, as a monthly average.
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. PER forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (4) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the wet scrubber during the 12-month reporting period for this/these emissions unit(s):
  - a. each period of time (start time and date, and end time and date) when the pressure drop across the scrubber, the liquid flow rate, or the liquid pH was/were

outside of the appropriate range or exceeded the applicable limit contained in this permit;

- b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
  - c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
  - d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the pressure drop, liquid flow rate, and/or scrubber liquid pH into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
  - e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- (5) The permittee shall identify in the annual permit evaluation report the following information concerning the reduction reactant lbs/hr limit during the 12-month reporting period for this/these emissions unit(s):
- a. each period of time (start time and date, and end time and date) when the reduction reactant lbs/hour limit was exceeded;
  - b. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;
  - c. each incident of deviation described in “a” where prompt corrective action was determined to be necessary and was not taken; and
  - d. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitation:  
Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 2.25 lbs/hr.  
  
Applicable Compliance Method:  
Compliance shall be determined through performance testing using U.S. EPA Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. See f)(2) below.
  - b. Emission Limitation:  
Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 9.86 TPY.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 lbs per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pound per hour limitation.

c. Emission Limitation:

Ammonia (NH<sub>3</sub>) emissions shall not exceed 4.5 lbs/hr.

Applicable Compliance Method:

Compliance shall be determined based the following formula and recordkeeping in d)(2):

$$\text{lb/hr} = a/b * (1-CE)$$

Where:

a = pounds of ammonia per batch

b = hours of reaction per batch

CE = 98.5% ammonia removal from scrubber

d. Emission Limitation:

Ammonia (NH<sub>3</sub>) emissions shall not exceed 19.71 TPY.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the hourly emission rate by 8,760 hours of operation per year and dividing by 2,000 lbs per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pound per hour limitation.

e. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(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 3 months after issuance of the permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate (outlet only) for SO<sub>2</sub>, in the appropriate averaging period.

- c. Emissions units P003 and P004 are identical emissions units, consequently, the following test methods shall be employed on one stack for either P003 or P004 to demonstrate compliance with the allowable mass emission rate for SO<sub>2</sub>

Methods 1 – 4 and Method 6, 40 CFR Part 60, Appendix A

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

- d. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the Cleveland Division of Air Quality (Cleveland DAQ). Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Cleveland DAQ that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).
- f. Personnel from the Cleveland DAQ 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.
- g. 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 Cleveland DAQ 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 Cleveland DAQ.



**Final Permit-to-Install and Operate**  
Clean Harbors Environmental Services, Inc.  
**Permit Number:** P0120938  
**Facility ID:** 1318006093  
**Effective Date:** 9/21/2016

g) Miscellaneous Requirements

- (1) Emissions units P003 and P004 were both installed in 1988.
- (2) Superseded permits for both P003 and P004 include PTI 13-1799 issued final 7/27/1988; State PTO P0055757 issued final 1/6/1995; and P0094529 issued final 8/17/2011.