



Environmental Protection Agency

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

7/19/2011

TOM STEIB
ELCO CORP.
1000 BELT LINE
CLEVELAND, OH 44109

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318000152
Permit Number: P0105135
Permit Type: Renewal
County: Cuyahoga

Certified Mail

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

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, The Plain Dealer. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297.

Sincerely,

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

Cc: U.S. EPA Region 5 *Via E-Mail Notification*
CDAQ; Pennsylvania; Canada



Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

The Elco Corporation produces a variety of heat resistant lubricants using chlorine and sulfur as reactants in glass lined reactant chambers. The emission unit P008 using chlorine is controlled with a wet venture scrubber and the toluene used in this reaction is reclaimed by a condenser and reused during the reaction. No chlorine is incorporated into the product. The company estimated the scrubber efficiency (for HCl) is 99.5% and the condenser for the toluene is a conservative 90%.

Two emissions units (P009 and P010) use sulfur as a reactant, of which only 5% is released into the atmosphere and the remainder incorporated into the oil. The sulfur is converted to H₂S in the reaction and is controlled by an incinerator. The company has determined that 5% of the sulfur added for each reaction is lost and the remainder incorporated into the product. A stack test was conducted on the incinerator and showed level an order of magnitude lower than their emission limitation for H₂S. SO₂ is produced as the combustion product in the incinerator and is not controlled.

3. Facility Emissions and Attainment Status:

The Elco Corporation emits SO₂, HCl (HAP), and VOCs (HAP) and a small amount of H₂S. The only pollutant emitted over 10 TPY at its PTE is SO₂. Facility actual emissions were reported 10-50 TPY range in 2009. The actual emission range was less than 10 TPY in 2008.

Cuyahoga County is non-attainment for PM 2.5 and partial non-attainment for lead.

4. Source Emissions:

Through the use of the above noted control equipment, emissions from P008 are limited to 3.8 tons per year of HCl and one batch per day, with P009 and P010 limited to 3 ppmv H₂S each. P009 is limited to 2900 lbs. sulfur charged per batch and 260 batches per year, and P010 limited to 4500 lbs. sulfur charged per batch for a limit of 260 batches per year. These restrictions limit SO₂ emissions to 95.3 tons per rolling, 12-month period.

5. Conclusion:

All three emissions units use a control device to stay out of Title V permitting. The amount of reactant and the number of batches per year are limited in order to stay below Title V thresholds. Monthly record keeping of emissions based on chlorine and sulfur additions is required.

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
H ₂ S	1.3
SO ₂	95.3
HCl	3.8
Toluene	7.3
NO	0.03

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install and Operate
ELCO CORP.

Issue Date: 7/19/2011

Permit Number: P0105135

Permit Type: Renewal

Permit Description: FEPTIO renewal of expired PTO for P008 (P0051797) a reactor using and releasing chlorine gas/hydrochloric acid, controlled by a wet caustic scrubber and P009 (P0051798) a 2,500 gallon stainless steel reactor and P010 (P0051799) a 6,000 gallon stainless steel reactor joined with P009 to a gas fired fume incinerator for the control of hydrogen sulfide.

Facility ID: 1318000152

Facility Location: ELCO CORP.
1000 BELT LINE,
CLEVELAND, OH 44109

Facility Description: Petroleum Lubricating Oil and Grease Manufacturing

The Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control, federally enforceable permit-to-install and operate (PTIO) for the facility at the location identified above on the date indicated. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to David Hearne at Cleveland Division of Air Quality, 2nd Floor 75 Erieview Plaza, Cleveland, OH 44114 or (216)664-2297. The permit can be downloaded from the Web page: www.epa.ohio.gov/dapc



DRAFT

**Division of Air Pollution Control
Permit-to-Install and Operate
for
ELCO CORP.**

Facility ID:	1318000152
Permit Number:	P0105135
Permit Type:	Renewal
Issued:	7/19/2011
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install and Operate
for
ELCO CORP.

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Authorization

Facility ID: 1318000152

Application Number(s): A0037902

Permit Number: P0105135

Permit Description: FEPTIO renewal of expired PTO for P008 (P0051797) a reactor using and releasing chlorine gas/hydrochloric acid, controlled by a wet caustic scrubber and P009 (P0051798) a 2,500 gallon stainless steel reactor and P010 (P0051799) a 6,000 gallon stainless steel reactor joined with P009 to a gas fired fume incinerator for the control of hydrogen sulfide.

Permit Type: Renewal

Permit Fee: \$0.00 *DO NOT send payment at this time, subject to change before final issuance*

Issue Date: 7/19/2011

Effective Date: To be entered upon final issuance

Expiration Date: To be entered upon final issuance

Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

ELCO CORP.
1000 BELT LINE
CLEVELAND, OH 44109

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

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

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director



Authorization (continued)

Permit Number: P0105135

Permit Description: FEPTIO renewal of expired PTO for P008 (P0051797) a reactor using and releasing chlorine gas/hydrochloric acid, controlled by a wet caustic scrubber and P009 (P0051798) a 2,500 gallon stainless steel reactor and P010 (P0051799) a 6,000 gallon stainless steel reactor joined with P009 to a gas fired fume incinerator for the control of hydrogen sulfide.

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

Emissions Unit ID:	P008
Company Equipment ID:	Reactor R-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name: sulfur reactors

Emissions Unit ID:	P009
Company Equipment ID:	Reactor R-3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P010
Company Equipment ID:	Reactor K-1
Superseded Permit Number:	13-550
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

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



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

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

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

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

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

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

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

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

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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



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

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

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

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

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

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

B. Facility-Wide Terms and Conditions

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

C. Emissions Unit Terms and Conditions



1. P008, Reactor R-2

Operations, Property and/or Equipment Description:

2,000 gallon glass lined reactor, equipped with carbate heat exchanger and caustic scrubber to control HCl emissions and a condenser to control VOC emissions.

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

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05 (A)(3)	HCl Emissions shall not exceed 21 lbs/batch. Volatile organic compound emissions shall not exceed 40 lbs/batch. See b)(2)a below
b.	OAC rule 3745-21-07(G)(1)	Organic compound (OC) emissions shall be reduced by at least 85% overall control. See b)(2)c below
c.	OAC rule 3745-21-07(M)(4)	Volatile organic compound (VOC) emissions shall be reduced by at least 85% overall control. See b)(2)c below



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(D)(1)(b)	HCl emissions shall not exceed 3.8 TPY. Volatile organic compound (toluene) emissions shall not exceed 7.3 TPY. See b)(2)a. below.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to the wet scrubber and condenser at all times the emissions unit is in operation and shall meet the operational, monitoring, and record keeping requirements of this permit.
- b. The owner or operator shall operate the control devices in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the owner or operator.
- c. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision:

b)(1)b.

The emission limitations and control requirements from the amended 21-07 rule, and the associated operational restrictions and the monitoring, record keeping, and reporting requirements contained in this permit, shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following terms shall become federally enforceable after U.S. EPA approves the rule revision:

b)(1)c.

- d. The maximum potential number of batches this reactor can process is one batch per day and 365 batches per year.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information for each day of operation:

- a. the amount of chlorine added per batch, in pounds;
 - b. the amount of toluene added per batch, in pounds;
 - c. the emissions of HCl per batch, in pounds HCl/batch, based on scrubber efficiency determined using the formula in f)(1)a. below;
 - d. the emissions of VOC per batch, in pounds VOC/batch, based on the condenser efficiency $[b * (1-0.9)]$; and
 - e. the amount, in pounds, of the caustic solution charged (total amount of caustic and water).
- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range for the caustic pump pressure prior to the scrubber, that shall be maintained in order to demonstrate compliance, shall be 65 psig minimum.
 - (3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the chlorine feed shall be turned off when the chlorine sensor alarm is triggered.
 - (4) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range for the pH of the scrubber liquid measured at the end of the batch, that shall be maintained in order to demonstrate compliance, is between 8 and 14.
 - (5) The permittee shall properly operate and maintain equipment to continuously monitor the pump pressure from the flow of caustic water to the venturi scrubber (in psig), and the chlorine absorption, during the operation of this emissions unit, including periods of startup and shutdown. In addition, the scrubber liquid pH shall be recorded at the completion of each batch. The permittee shall record these parameters on a 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:

- a. a description of the corrective action;
- b. the date the corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the caustic pump pressure, caustic charge, and pH readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

These range(s) and/or limit(s) for the pump pressure, chlorine sensor alarm, and pH are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality. The permittee may request revisions to the permitted range or limit for the pump pressure, chlorine sensor alarm, or pH based upon information obtained during future performance tests that demonstrate compliance with the allowable HAP emission rate for this emissions unit. 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.

- (6) The average temperature of the exhaust gases from the condenser, for any 3-hour block of time when the emission unit controlled by the condenser is in operation, shall not exceed 120 degrees Fahrenheit.
- (7) The permittee shall properly operate, and maintain a continuous temperature monitor and recorder which measures and records the temperature of the exhaust gases from the condenser when the emissions units is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit is in operation:

- a. all 3-hour blocks of time, when the emissions unit controlled by the condenser was in operation, during which the average temperature of the exhaust gases from the condenser exceeded the range established during the most recent performance test that demonstrated the emissions unit was in compliance; and
 - b. a log of the downtime for the capture (collection) system, condenser, and monitoring equipment when the associated emissions unit was in operation.
- e) Reporting Requirements
- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for the air contaminant source identified in this permit.
 - (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the control devices during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the pump pressure or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit, or when the chlorine sensor alarm was activated;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was 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 pump pressure, chlorine sensor alarm, 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;
 - 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;
 - f. each period of time (start time and date, and end time and date) when the average temperature of the exhaust gases from the condenser was outside of the acceptable range; and



- g. 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 condenser.
- (4) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) 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:
 - Control Device limitations:
 - each period of time when the pump pressure, the chlorine sensor alarm, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit.
 - each period of time when the condenser outlet temperature was outside of the appropriate range or exceeded the applicable limit contained in this permit.
 - any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber or condenser;
 - 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).

f) Testing Requirements

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

a. Emission Limitation:

21 lbs/batch HCl

Applicable Compliance Method:

Compliance shall be determined according to the record keeping in d)(1) and the formula detailed below:

$$\frac{CL * CF * (1 - CE)}{batch} = lb/batch HCl$$

Where:

CI = lbs chlorine added per batch

CF = conversion factor for CI to HCl of 1.028

CE = wet scrubber control efficiency of 99.5%

b. Emission Limitation:

3.8 TPY HCl

Applicable Compliance Method:

Compliance shall be determined by summing of the daily HCl emissions per batch as determined from the recordkeeping in d)(1).

c. Emission Limitation:

40 lbs/batch VOC (toluene)

Applicable Compliance Method:

Compliance shall be determined according to recordkeeping in d)(1) and the formula detailed below:

$$\frac{\text{toluene} * (1 - CE)}{\text{batch}} = \text{lb/batch VOC}$$

Where:

toluene = lbs. toluene added per batch

CE = condenser efficiency of 90%

d. Emission Limitation:

7.3 TPY VOC (toluene)

Applicable Compliance Method:

Compliance shall be determined by summing the daily VOC emissions per batch as determined from the recordkeeping in d)(1).

e. Emission Limitation:

Volatile organic compound emissions shall be reduced by 85% overall control



Applicable Compliance Method:

If required, compliance shall be demonstrated by performing a stack test at the inlet and outlet of the condenser using USEPA Methods 1-4, and 25 (or 25A if applicable) of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.



2. Emissions Unit Group - Sulfur Reactors: P009, P010,

EU ID	Operations, Property and/or Equipment Description
P009	2,500 gallon stainless steel reactor with gas fired fume incinerator
P010	6,000 gallon stainless steel reactor with gas fired fume incinerator

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. b)(1)c., b)(2)b., b)(2)c., c)(1), c)(2), d), and e)(2).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) PTI 13-550 issued on July 24, 1980 (P010 only)	Hydrogen sulfide emissions shall not exceed 3 ppm (dry volume) in the stack exhaust. See b)(2)a. below
b.	OAC rule 3745-21-07(G)(1)	Volatile organic compound emissions shall be reduced by 85% overall and the incinerator shall achieve 90 % destruction efficiency. See b)(2)b.
c.	OAC rule 3745-21-07(M)(4)	Volatile organic compound emissions shall be reduced by 85% overall and the incinerator shall achieve 90 % destruction efficiency. See b)(2)b.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05 (D)(1)(b) Synthetic Minor to Avoid Title V	Sulfur dioxide emissions shall not exceed 95.0 TPY per rolling, 12-month period from emissions units P009 and P010 combined. See c)(1) below.

(2) Additional Terms and Conditions

- a. There shall be no visible emissions in the exhaust gases from the thermal oxidizer at any time.
- b. On February 18, 2008, OAC rule 3745-21-07 was revised in its entirety; therefore, the 21-07 rule that was in effect prior to this date is no longer part of the State regulations. On April 4, 2008, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision to OAC rule 3745-21-07, the requirement to comply with the previous 21-07 rule provisions still exists as part of the federally-approved SIP for Ohio. The following terms and conditions shall become void after U.S. EPA approves the rule revision:

b)(1)b.

The emission limitations and control requirements from the amended 21-07 rule, and the associated operational restrictions and the monitoring, record keeping, and reporting requirements contained in this permit, shall become federally enforceable on the date the U.S. EPA approves the revised OAC rule 3745-21-07 as a revision to the Ohio State Implementation Plan. The following terms shall become federally enforceable after U.S. EPA approves the rule revision:

b)(1)c.

- c. All of the emissions from the emissions units listed above shall be vented to the thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when one or more of the emissions units are in operation.

c) Operational Restrictions

- (1) The permittee shall limit sulfur charging to a maximum of 960 tons sulfur charged, per rolling, 12-month period for P009 and P010 combined.
- (2) The P009 reactor cycle shall be timed with P010 reactor so that the initial "heat-up" on one does not take place when an initial "sparge or air blow" of the other reactor is occurring. This restriction is based on the 1997 stack test data in order to comply with the limits in b)(1)a).

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and maintain the following information, on a daily basis, for both emissions units when in operation:
 - a. the pounds of sulfur charged; and
 - b. the daily SO₂ emissions using the formula in f)(1)c.
- (2) Maintain monthly records of the following information:
 - a. the rolling 12-month summation of sulfur charged, in tons; and
 - b. the rolling 12-month summation of SO₂ emissions using the formula in f)(1)c.
- (3) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable combustion temperature within the thermal oxidizer, during any period of time when the emissions units controlled by the thermal oxidizer are in operation, shall not be less than 1450 degrees Fahrenheit.
- (4) The permittee shall properly operate, and maintain continuous temperature monitors and recorders that measure and records the combustion temperature within the thermal oxidizer when the emissions units are in operation, including periods of startup and shutdown. The permittee shall record the combustion temperature on a 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. These records shall be maintained at the facility for a period of no less than 3 years.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ 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:

Operational limitations: 960 tons sulfur charged per rolling, 12-month period combined total for P009 and P010;

Temperature limitations: each period of time (start time and date, and end time and date) when the average combustion

temperature within the thermal oxidizer was outside of the acceptable range;

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 thermal oxidizer.

- 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) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (4) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the thermal oxidizer during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;
 - c. each incident of deviation described in [a] or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in [a] or "b" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and

- e. each incident of deviation described in [a] or “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) Testing Requirements

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

- a. Emission Limitation:

3 ppm H₂S

Applicable Compliance Method:

Compliance shall be determined through performance testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 15. See f)(2) below.

- b. Emission Limitation:

90% destruction and 85% overall control of the incinerator for VOCs

Applicable Compliance Method:

If required, compliance shall be determined through performance testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 – 4, and Method 25 or 25A.

- c. Emission Limitation:

95.0 TPY SO₂ per rolling, 12-month period combined total for P009 and P010 combined

Applicable Compliance Method:

Compliance with the tons per year shall be determined according to the record keeping in d)(1) and using the formula detailed below:

$$\frac{\sum S \cdot EF \cdot CF \cdot CE}{2000 \frac{\text{lbs}}{\text{ton}}} = \text{TPY SO}_2$$

Where:

S = lbs of sulfur added per day for P009 and P010 combined

EF = 5% of the sulfur is emitted in the process while the remainder is incorporated into the product.

CF = conversion factor for S to SO₂ of 2

CE = incinerator efficiency of 99%

- (2) The permittee shall conduct, or have conducted, emission testing (stack test) for this emissions unit in accordance with the following requirements:
- a. The emissions testing shall be conducted within six months after issuance of this permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the outlet H₂S ppm limit. The emission testing shall also be conducted to establish the minimum combustion temperature of the incinerator.
 - c. The following test methods shall be employed to demonstrate compliance with the outlet H₂S ppm limit:
 - i. Methods 1 – 4 of 40 CFR Part 60, Appendix A;
 - ii. Method 15 of 40 CFR Part 60, Appendix A at outlet only for H₂S.

Alternative US EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. Testing shall be conducted while the emissions unit is operating at or near its maximum capacity [note the operational limitation in c)], unless otherwise specified or approved by the Cleveland DAQ.

Not later than 30 days prior to proposed test date(s), the permittee shall submit an "Intent to Test" notification that shall describe in detail the proposed test methods and procedures, the emissions the emission unit operating parameters, the time(s) and dates(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 DAQs refusal to accept the results of the emission test(s).

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 emission unit and the testing procedures provide a valid characterization of the emissions from the emission 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 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.

g) Miscellaneous Requirements

- (1) None.