OhioEPA
State of Ohio Environmental Protection Agency

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RECEIVED
JUN 16 2008
OHIO EPA NEDO

CERTIFIED MAIL

RE: FINAL PERMIT TO INSTALL
ASHTABULA COUNTY
Application No: 02-22976
Fac ID: 0204000417

DATE: 6/12/2008

	TOXIC REVIEW
	PSD
	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

The Elco Corporation
Tom Steib
1100 State Road
Ashtabula, OH 44004

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final 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 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
309 South Fourth Street, Room 222
Columbus, OH 43215

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA NEDO

OhioEPA STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 6/12/2008**
Terms and Conditions	**Effective Date: 6/12/2008**

FINAL PERMIT TO INSTALL 02-22976

Application Number: 02-22976

Facility ID: 0204000417

Permit Fee: **$500**

Name of Facility: The Elco Corporation

Person to Contact: Tom Steib

Address: 1100 State Road
Ashtabula, OH 44004

Location of proposed air contaminant source(s) [emissions unit(s)]:
1100 State Road
Ashtabula, Ohio

Description of proposed emissions unit(s):
Mfg. of light color/low odor sulfurized fats.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and

regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

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

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions

may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

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

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this

permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
PE	1.21
OC	2.19
H_2S	0.06

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment - (P002) - Sulfurized fats manufacturing: a 2,000 gal. glass lined reactor and a 1,000 gal. stainless steel reactor with a condenser, knockout pot (R-11 condenser & R-11 knockout pot) and an auxiliary wet scrubber to control OC emissions, and a venturi, caustic scrubber (T214) and a secondary wet scrubber to control H_2S emissions

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)(b)	See section A.2.a.
OAC rule 3745-31-05(A)(3)	The requirements of this rule are not applicable.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20 percent opacity as a 6-minute average.
OAC rule 3745-17-11	The particulate emissions (PE) shall not exceed 3.38 lbs/hr. See section A.2.b.
OAC rule 3745-31-05(C) - voluntary restriction to avoid BAT requirements	The organic compound (OC) emissions shall not exceed 9.9 tons/year. See section A.2.c.
OAC rule 3745-31-05(C) - voluntary restriction to avoid state modeling requirements	The hydrogen sulfide (H_2S) emissions shall not exceed 0.9 ton/year. See section A.2.d.

2. Additional Terms and Conditions

2.a The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the uncontrolled potential to emit for PE is less than 10 tons/yr. Maximum, uncontrolled PE may be estimated by the following methods:

i. Determination of the maximum, uncontrolled, hourly PE rate may be based on the following equation:
PE(HR) = W/batch x batch/hr feed x W_{SOLIDS}% x EF.
where:
PE(HR) = maximum, hourly PE rate, which is 2.20 lbs PE/hr.

W/batch = maximum, weight of materials per batch, which is 1,500 lbs_{MTLS}/batch, as specified in the application for PTI 02-22976.

batch/hr feed = time for solid materials feed per batch, which is batch/1-hr feed.

W_{SOLIDS}% = maximum percent of solid materials per batch as a decimal fraction, which is 0.147 lb_{SOLIDS}/lbs_{MTLS}, as derived from the application for PTI 02-22976.

EF = emissions factor, which is 0.01 lb PE_{UNCTRL}/lb_{SOLIDS} fromTable 6.4-1 in AP-42 Chap. 6.4 (5/83).

ii. Determination of the maximum, uncontrolled, annual PE rate may be based on the following equation:

PE(YR) = PE(HR) x hr feed/batch x batch/hr x 24 hrs/day x 365 days/yr x ton PE/2,000 lbs PE.
where:
PE(YR) = maximum, annual, uncontrolled PE rate, which is 1.20 tons/yr of PE.

hr feed/batch = time for solid materials feed per batch, which is 1 hr feed/batch.

batch/hr = total batch time, which is batch/8 hrs as specified in the application for PTI 02-22976.

2.b The potential to emit PE, as defined in OAC rule 3745-31-01, for this emissions unit is 2.20 lbs/hr. The potential PE rate is less than the emissions limit of 3.38 lbs/hr, pursuant to OAC rule 3745-17-11(B), Table I. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this short term emissions limitation.

2.c Permit to Install 02-22976 for this air contaminant source takes into account the following voluntary restriction(s) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3): operation of a condenser, with the use of an auxiliary wet scrubber, as specified in section B.2., with an overall minimum efficiency of 90%, by weight, for the control of OC emissions.

2.d Permit to Install 02-22976 for this air contaminant source takes into account the following voluntary restriction(s) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3): operation of a caustic scrubber (T214), with a minimum efficiency of 99%,

by weight, followed by a secondary wet scrubber, with a minimum efficiency of 99%, by weight, for control of H_2S emissions.

B. Operational Restrictions

1. All of the OC emissions from this emissions unit shall be vented to the condenser (R-11 condenser) when the emissions unit is in operation.

2. Whenever the condenser (R-11 condenser) exhaust gases are 83°F or greater the condenser exhaust shall be vented to the auxiliary wet scrubber.

3. The emissions from this emissions unit shall be vented to the venturi, caustic scrubber (T214) at all times the emissions unit is in operation.

4. The emissions from this emissions unit shall be vented to the secondary wet scrubber at all times the emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the average temperature of the exhaust gases from the condenser, for any 3-hour block of time when the emission unit(s) controlled by the R-11 condenser is in operation, shall not exceed 83 degrees Fahrenheit unless the R-11 condenser exhaust gases are vented to the auxiliary wet scrubber.

2. 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 R-11 condenser when the emissions unit is in operation. 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 installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The permittee shall collect and record the following information each day the emissions unit(s) is in operation:

   a. all 3-hour blocks of time, when the emissions unit(s) controlled by the condenser was in operation, during which the average temperature of the exhaust gases from the condenser was more than the maximum temperature specified in this permit and the auxiliary wet scrubber was not employed; and

   b. a log of the downtime for the capture (collection) system, condenser, and monitoring equipment when the associated emissions unit(s) was/were in operation.

3. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable auxiliary wet scrubber liquid flow rate, that shall be maintained in

order to demonstrate compliance, shall not be less than 1.5 gallons per minute whenever the R-11 condenser exhaust gases are vented to the auxiliary wet scrubber.

4. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the following acceptable control equipment operating parameters of the caustic T214 scrubber shall be maintained in order to demonstrate compliance:

   a. the pressure drop across the scrubber shall not be less than 5 inches of water gauge; and

   b. prior to the start of each batch process, the sodium hydroxide concentration of the caustic scrubber liquor shall be no less than 20%.

5. In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the secondary wet scrubber shall be employed.

6. The permittee shall properly operate, and maintain equipment to continuously monitor control equipment operation or the control equipment parameters specified in sections C.3. through C.5. during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the parameters specified in sections C.3. through C.5. 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).

7. Whenever the monitored value for any parameter for the R-11 condenser, the auxiliary wet scrubber, the caustic scrubber (T214) or the secondary wet scrubber deviates from the range(s) or minimum limit(s) specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain daily 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 R-11 condenser exhaust gas temperature readings immediately after the corrective action was implemented (if applicable);
k. the auxiliary wet scrubber flow rate (if applicable);
l. the caustic scrubber (T214) pressure drop, and sodium hydroxide concentration readings (if applicable) immediately after the corrective action was implemented;
m. the secondary wet scrubber down time (if applicable); and
n. 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 specified range(s) or limit(s) for the R-11 exhaust gas temperature and auxiliary wet scrubber are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northeast District Office. The permittee may request revisions to the permitted exhaust gas temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable OC emission rate for the controlled emissions unit(s). In addition, approved revisions to the parameter range(s) or limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

These specified limit(s) for the caustic scrubber (T214) and secondary wet scrubber are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northeast District Office. The permittee may request revisions to the control equipment operating parameter range(s) or limit(s) based upon information obtained during future emission tests that demonstrate compliance with the allowable H_2S emissions rate for this emissions unit(s). In addition, approved revisions to the range(s) or limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

8. Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F)(4)(b) was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

D. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the R-11 condenser and the auxiliary wet scrubber during the operation of the emissions unit(s):

   a. each period of time when the average temperature of the exhaust gases from the condenser was outside of the acceptable range or limit and the auxiliary wet scrubber was not in operation;

   b. each period of time when the water flow through the auxiliary wet scrubber was outside of the acceptable range or limit when the R-11 condenser gases were vented to the auxiliary wet scrubber;

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

   d. an identification of each incident of deviation described in "a" and "b" where prompt corrective action, that would bring the parameter into compliance with the acceptable range or limit, was determined to be necessary and was not taken; and

   e. an identification of each incident of deviation described in "a" and "b" where proper records were not maintained for the investigation and/or the corrective action(s).

2. The permittee shall submit quarterly reports that identify the following information concerning the operation of the caustic (T214) and the secondary wet scrubber during the operation of the controlled emissions unit(s):

   a. each period of time when the pressure drop or the sodium hydroxide concentration of the caustic (T214) scrubber were outside of the appropriate range or exceeded the applicable limit contained in this permit;

   b. each period of time when the secondary wet scrubber was not employed when this emissions unit was in operation;

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

   d. an identification of each incident of deviation described in "a" and "b" where prompt corrective action, that would bring the parameter(s) into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and

   e. an identification of each incident of deviation described in "a" and "b" where proper records were not maintained for the investigation and/or the corrective action(s).

E. Testing Requirements

1. Compliance with the allowable emissions limitation and control measures requirements in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emissions Limitation: Visible particulate emissions from any stack shall not exceed 20% opacity as a six-minute average.

      Applicable Compliance Method: Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), Appendix A, U.S. EPA Reference Method 9.

   b. Emissions Limitation: The PE rate shall not exceed 3.38 lbs/hr.
      Applicable Compliance Method: Compliance may be based on the equations specified in section A.2.a.

      If required, the permittee shall demonstrate compliance with this emission limitation through emissions tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 or equivalent, alternative method(s), as approved by Ohio EPA.

   c. Emission Limitation(s): The OC emissions shall not exceed 9.9 tons/year.

      Applicable Compliance Method: Compliance may be based on the following equations:

      i. Determination of the maximum, controlled, hourly OC rate may be based on the following equation:
      $OC(HR) = OC_{UNCTRL}(HR) \times (1 - CE)$.
      where:
      OC(HR) = maximum, controlled OC emissions, which is 1 lb/hr.

      $OC_{UNCTRL}(HR)$ = worst case uncontrolled OC emissions rate, which is 10 lbs/hr, as specified in the application for PTI 02-22976.

      CE = efficiency of the R-11 condenser control, which is at least 0.90, as specified in the application for PTI 02-22976.

      ii. Determination of the maximum, controlled, annual OC rate may be based on the following equation:
      OC(YR) = OC(HR) x hr reaction/batch x batch/hr x 24 hrs/day x 365 days/yr x ton OC/2,000 lbs OC.
      where:

OC(YR) = maximum, annual, controlled OC rate, which is 2.19 tons/yr of OC.

hr reaction/batch = sulfurization reaction time per batch, which is 4 hrs reaction/batch.

batch/hr = total batch time, which is batch/8 hrs as specified in the application for PTI 02-22976.

d. Emission Limitation(s): The H_2S emissions shall not exceed 0.9 ton/year.

Applicable Compliance Method: Compliance may be based on the following equations:

i. Determination of the maximum, controlled, hourly H_2S rate may be based on the following equation:
$H_2S(HR) = W/batch \times EF \times (1 - CE_1) \times (1 - CE_2)$.
where:
$H_2S(HR)$ = maximum, controlled H_2S emissions, which is 0.02 lb/hr, as specified in the application for PTI 02-22976.

W/batch = maximum, weight of materials per batch, which is 1,500 lbs_{MTLS}/batch, as specified in the application for PTI 02-22976.

EF = emissions factor, which is 0.01 lb H_2S_{UNCTRL}/lb product, as determined from Elco's mass emissions studies on a similar process at Elco's Cleveland plant, discussed in the application for PTI 02-22976.

CE_1 = efficiency of the primary scrubber control, which is at least 0.99, as specified in the application for PTI 02-22976.

CE_2 = efficiency of the secondary scrubber control, which is at least 0.99, as specified in the application for PTI 02-22976.

ii. Determination of the maximum, controlled, annual H_2S rate may be based on the following equation:
$H_2S(YR) = H_2S(HR) \times$ hr reaction & purge/batch x batch/hr x 24 hrs/day x 365 days/yr x ton H_2S/2,000 lbs H_2S.
where:
$H_2S(YR)$ = maximum, annual, controlled H_2S rate, which is 0.055 tons/yr of H_2S.

hr reaction & purge/batch = reaction and purge time per batch, which is 5 hrs reaction & purge/batch.

batch/hr = total batch time, which is batch/8 hrs as specified in the application for PTI 02-22976.

2. Any determination of sodium hydroxide (NaOH) content (percent by weight) of the scrubber liquor shall be made prior to the addition of any concentrated caustic solution to the scrubber liquor holding tank. The permittee shall determine the NaOH content, prior to caustic solution addition, by the hydrochloric acid titration procedure for NaOH determination in sodium sulfhydrate (NaSH) method, as submitted on August 18, 1999. An equivalent, alternative method (as approved by Ohio EPA) may be performed on the scrubber liquor(s).

F. Miscellaneous Requirements

1. The R-11 condenser, R-11 knockout pot, and auxiliary wet scrubber are also employed to control OC emissions from the SDDP/ZDDP process (P001). The caustic scrubber (T214) and secondary wet scrubber are also employed to control H_2S emissions from the SDDP/ZDDP process (P001).

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