



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
CUYAHOGA COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 13-04575

Fac ID: 1318537766

DATE: 7/6/2006

Swagelok Manufacturing Company, LLC
Catherine Rhoades
6060 Cochran Road
Solon, OH 44139

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 by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. 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, Ohio 43215

Sincerely,

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

CC: USEPA

CLAA



**Permit To Install
Terms and Conditions**

**Issue Date: 7/6/2006
Effective Date: 7/6/2006**

FINAL PERMIT TO INSTALL 13-04575

Application Number: 13-04575
Facility ID: 1318537766
Permit Fee: **\$400**
Name of Facility: Swagelok Manufacturing Company, LLC
Person to Contact: Catherine Rhoades
Address: 6060 Cochran Road
Solon, OH 44139

Location of proposed air contaminant source(s) [emissions unit(s)]:
**6060 Cochran Road
Solon, Ohio**

Description of proposed emissions unit(s):
Installation of two furnaces with wet scrubber and afterburner -- P006, P007

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

Director

Swagelok Manufacturing Company, LLC
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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 quarterly, i.e., 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

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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)

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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.

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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

<u>Pollutant</u>	<u>Tons Per Year</u>
Acid Gas	0.06
CO	6.23

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PE	0.91
OC	0.44
NOx	3.77

OAC rule 3745-31-05(A)(3)

Applicable Emissions
Limitations/Control Measures

Acid Gas: 0.04 lb/hour and 0.03 ton/year emissions

Carbon Monoxide (CO): 0.60 lb/hour and 1.54 TPY emissions

PE: 0.07 lb/hr and 0.30 TPY emissions

Visible particulate emissions from any stack servicing this emissions unit shall not exceed 5% opacity, as a six minute average.

The visible emissions limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-06(A)(3).

NOx: 0.86 lb/hr and 3.77 tons/year emissions

CO: 0.72 lb/hr and 3.15 tons/year emissions

OC: 0.1 lb/hr and 0.44 ton/year

emissions

PE: 0.07 lb/hr and 0.31 ton/year emissions

2. Additional Terms and Conditions

2.a None.

B. Operational Restrictions

1. Until compliance testing has been conducted, as required in this permit, the average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall be maintained at the average temperature recommended by the manufacturer of the incinerator, with any modifications deemed necessary by the permittee. Following compliance testing, the average combustion temperature within the thermal incinerator, for any 3-hour block of time the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance.
2. The pH of the scrubber liquor for scrubber #1 and scrubber #2 shall be continuously maintained within the range of 9 to 10.
3. The pressure drop across scrubber #1 shall be continuously maintained with the range of 1 to 10 inches of water at all times while the emissions unit is in operation.
4. The pressure drop across scrubber #2 shall be continuously maintained with the range of 1 to 8 inches of water at all times while the emissions unit is in operation.
5. The static pressure across each scrubber shall be continuously maintained at a value of not less than 18 pounds per square inch gauge at all times while the emissions unit is in operation.
6. The scrubber water flow rate for scrubber #1 and scrubber #2 shall be continuously maintained at a value of not less than 400 gallons per minute for each scrubber at all times while the emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall install, operate, and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator 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 the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and calculate the average combustion temperature within the thermal incinerator, each of the eight, 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:
 - a. all 3-hour blocks of time, when the emissions unit was in operation, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance; and
 - b. a log of the downtime for the capture (collection) system, thermal incinerator, and monitoring equipment when the associated emissions unit was in operation.

These records shall be maintained at the facility for a period of three years.

2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the scrubber, the scrubber water flow rate, and the pH while the emissions unit is in operation. The monitoring devices shall be 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:

- a. the pressure drop across each scrubber, in psig;
- b. the static pressure across each scrubber, in psig,
- c. the scrubber water flow rate for each scrubber, in gallons per minute; and

- d. the pH of each of the scrubber's liquor.
3. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of three 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 the permit. Such records may be maintained in computerized form.
4. The permittee shall record and maintain records of the following information for each cycle:
 - a. the identification of each gas used during the cycle;
 - b. the amount of time each gas was used during the cycle;
 - c. the total cycle time; and
 - d. the total number of cycles per year.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland Division of Air Quality (DAQ) which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified in this permit.
2. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels contained in this permit:
 - a. the water supply pressure;
 - b. the scrubber pressure drop;
 - c. the scrubber water flow rate; and
 - d. the scrubber liquor pH.These deviation (excursion) reports shall be submitted in accordance with the general terms and conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.1 of these terms and conditions

shall be determined in accordance with the following method(s):

- a. Emission Limitation:
Visible Emissions from any stack servicing this emissions unit shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:

If required by Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using methods and procedures specified in U.S. EPA Reference Method 9.

- b. Emission Limitation:
0.04 lb/hr of Acid Gas emissions

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 1 through 4 and 26A. The results of the emissions test shall be reported in terms of pounds per hour. The scrubber outlet for both scrubbers shall be tested unless only one scrubber is used for the performance test. Compliance shall be determined by summing the results for both scrubbers.

- c. Emission Limitation:
0.03 ton/year of Acid Gas emissions

Applicable Compliance Method:

Compliance with the ton/year limitation shall be determined by multiplying the pound/hour limit by the amount of hours Acid Gas is introduced to the process per cycle, then multiply by the actual number of cycles per year and divide by 2000 pounds/ton.

- d. Emission Limitation:
0.60 lb/hr of CO emissions from furnace

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 10. The results of the emissions test shall be reported in terms of pounds per hour.

Emissions Unit ID: P006

Compliance shall be determined by comparing the stack test result to the sum of allowables from E.1.d and E.1.j ($0.6 + 0.72 = 1.32$ lb/hr).

- e. Emission Limitation:
1.54 tons/year of CO emissions from furnace

Applicable Compliance Method:

Compliance with the ton/year limitation shall be determined by multiplying the pound/hour limit by the amount of hours CO is introduced to the process per cycle, then multiply by the actual number of cycles per year and divide by 2000 pounds/ton.

- f. Emission Limitation:
0.07 lb/hr of PE emissions from furnace

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. The results of the emissions test shall be reported in terms of pounds per hour. Compliance shall be determined by comparing the stack test result to the sum of the allowables from E.1.f and E.1.n ($0.07 + 0.07 = 0.14$).

- g. Emission Limitation:
0.30 ton/year of PE emissions from furnace

Applicable Compliance Method:

Compliance with the ton/year limitation shall be determined by multiplying the PE pound/hour limit by the actual amount of hours per cycle, then multiply by the actual number of cycles per year and divide by 2000 pounds/ton.

- h. Emission Limitation:
0.86 lb/hr of NO_x emissions from the thermal incinerator

Applicable Compliance Method:

Compliance with the hourly NO_x emission limitation shall be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-1 (100 lbs NO_x/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.098 lb NO_x/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate.

- i. Emission Limitation:
3.77 tons/year of NO_x emissions from the thermal incinerator

Applicable Compliance Method:

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

- j. Emission Limitation:
0.72 lb/hr of CO emissions from the thermal incinerator

Applicable Compliance Method:

Compliance with the hourly CO emission limitation may be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-1 (84 lbs CO/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.082 lb CO/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate. Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 10. The results of the emissions test shall be reported in terms of pounds per hour. Compliance shall be determined by comparing the stack test result to the sum of allowables from E.1.d and E.1.j (0.6 + 0.72 = 1.32 lb/hr).

- k. Emission Limitation:
3.15 tons/year of CO emissions from the thermal incinerator

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

- l. Emission Limitation:
0.1 lb/hr of OC emissions from the thermal incinerator

Compliance with the hourly OC emission limitation shall be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-2 (11 lbs OC/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.011 lb OC/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate.

- m. Emission Limitation:
 0.44 ton/year of OC emissions from the thermal incinerator

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

- n. Emission Limitation:
 0.07 lb/hr of PE emissions from the thermal incinerator

Compliance with the hourly PE emission limitation shall be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-2 (7.6 lbs PE/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.0075 lb PE/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate. Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. The results of the emissions test shall be reported in terms of pounds per hour. Compliance shall be determined by comparing the stack test result to the sum of the allowables from E.1.f and E.1.n (0.07 + 0.07 = 0.14).

- o. Emission Limitation:
 0.31 ton/year of PE emissions from the thermal incinerator

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable concentration of PE, CO and acid gas in the exhaust stream. PE and CO shall be tested at the outlet of the incinerator. Acid Gas shall be tested at

Emissions Unit ID: P006

the outlet of both scrubbers unless only one scrubber is operated during the performance test. The test results of both scrubbers would be summed to demonstrate compliance.

- c. Both P006 and P007 are vented to common control equipment, only P006 shall be operating during the performance test.
- d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A;

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

for acid gas, Method 26A of 40 CFR Part 60, Appendix A.

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

- e. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Cleveland DAQ.
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to 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).
- g. 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.
- h. 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.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee 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 a new permit to install application would be required for an emissions unit if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.

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.

<u>Operations, Property, and/or Equipment</u>	common control device for both P006 and P007)	<u>Applicable Rules/Requirements</u>
P007 - Indirectly Heated Furnace No. 2 controlled with a Thermal Incinerator and Wet Scrubber		OAC rule 3745-31-05(A)(3)
		OAC rule 3745-17-07(A)
		OAC rule 3745-17-11(B)
Natural gas combustion for the thermal Incinerator (this is a		

OAC rule 3745-31-05(A)(3)

Applicable Emissions
Limitations/Control Measures

Acid Gas: 0.04 lb/hour and 0.03 ton/year emissions

Carbon Monoxide (CO): 0.60 lb/hour and 1.54 TPY emissions

PE: 0.07 lb/hr and 0.30 TPY emissions

Visible particulate emissions from any stack servicing this emissions unit shall not exceed 5% opacity, as a six minute average.

The visible emissions limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-06(A)(3).

NOx: 0.86 lb/hr and 3.77 tons/year emissions

CO: 0.72 lb/hr and 3.15 tons/year emissions

OC: 0.1 lb/hr and 0.44 ton/year emissions

PE: 0.07 lb/hr and 0.31 ton/year emissions

2. Additional Terms and Conditions

2.a None.

B. Operational Restrictions

1. Until compliance testing has been conducted, as required in this permit, the average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall be maintained at the average temperature recommended by the manufacturer of the incinerator, with any modifications deemed necessary by the permittee. Following compliance testing, the average combustion temperature within the thermal incinerator, for any 3-hour block of time the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance.
2. The pH of the scrubber liquor for scrubber #1 and scrubber #2 shall be continuously maintained within the range of 9 to 10.
3. The pressure drop across scrubber #1 shall be continuously maintained with the range of 1 to 10 inches of water at all times while the emissions unit is in operation.
4. The pressure drop across scrubber #2 shall be continuously maintained with the range of 1 to 8 inches of water at all times while the emissions unit is in operation.
5. The static pressure across each scrubber shall be continuously maintained at a value of not less than 18 pounds per square inch gauge at all times while the emissions unit is in operation.
6. The scrubber water flow rate for scrubber #1 and scrubber #2 shall be continuously maintained at a value of not less than 400 gallons per minute for each scrubber at all times while the emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall install, operate, and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator 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 the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and calculate the average combustion temperature within the thermal incinerator, each of the eight, 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:
 - a. all 3-hour blocks of time, when the emissions unit was in operation, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance; and
 - b. a log of the downtime for the capture (collection) system, thermal incinerator, and monitoring equipment when the associated emissions unit was in operation.

These records shall be maintained at the facility for a period of three years.

2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the scrubber, the scrubber water flow rate, and the pH while the emissions unit is in operation. The monitoring devices shall be 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:

- a. the pressure drop across each scrubber, in psig;
- b. the static pressure across each scrubber, in psig,
- c. the scrubber water flow rate for each scrubber, in gallons per minute; and
- d. the pH of each of the scrubber's liquor.

3. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of three 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 the permit. Such records may be maintained in computerized form.
4. The permittee shall record and maintain records of the following information for each cycle:
 - a. the identification of each gas used during the cycle;
 - b. the amount of time each gas was used during the cycle;
 - c. the total cycle time; and
 - d. the total number of cycles per year.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland Division of Air Quality (DAQ) which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified in this permit.
2. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels contained in this permit:
 - a. the water supply pressure;
 - b. the scrubber pressure drop;
 - c. the scrubber water flow rate; and
 - d. the scrubber liquor pH.

These deviation (excursion) reports shall be submitted in accordance with the general terms and conditions of this permit.

E. Testing Requirements

Emissions Unit ID: P007

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

- a. Emission Limitation:
Visible Emissions from any stack servicing this emissions unit shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:

If required by Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using methods and procedures specified in U.S. EPA Reference Method 9.

- b. Emission Limitation:
0.04 lb/hr of Acid Gas emissions

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 1 through 4 and 26A. The results of the emissions test shall be reported in terms of pounds per hour. The scrubber outlet for both scrubbers shall be tested unless only one scrubber is used for the performance test. Compliance shall be determined by summing the results for both scrubbers.

- c. Emission Limitation:
0.03 ton/year of Acid Gas emissions

Applicable Compliance Method:

Compliance with the ton/year limitation shall be determined by multiplying the pound/hour limit by the amount of hours Acid Gas is introduced to the process per cycle, then multiply by the actual number of cycles per year and divide by 2000 pounds/ton.

- d. Emission Limitation:
0.60 lb/hr of CO emissions from furnace

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 10. The results of the emissions test shall be reported in terms of pounds per hour.

Compliance shall be determined by comparing the stack test result to the sum of allowables from E.1.d and E.1.j ($0.6 + 0.72 = 1.32$ lb/hr).

- e. Emission Limitation:
1.54 tons/year of CO emissions from furnace

Applicable Compliance Method:

Compliance with the ton/year limitation shall be determined by multiplying the pound/hour limit by the amount of hours CO is introduced to the process per cycle, then multiply by the actual number of cycles per year and divide by 2000 pounds/ton.

- f. Emission Limitation:
0.07 lb/hr of PE emissions from furnace

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. The results of the emissions test shall be reported in terms of pounds per hour. Compliance shall be determined by comparing the stack test result to the sum of the allowables from E.1.f and E.1.n ($0.07 + 0.07 = 0.14$).

- g. Emission Limitation:
0.30 ton/year of PE emissions from furnace

Applicable Compliance Method:

Compliance with the ton/year limitation shall be determined by multiplying the PE pound/hour limit by the actual amount of hours per cycle, then multiply by the actual number of cycles per year and divide by 2000 pounds/ton.

- h. Emission Limitation:
0.86 lb/hr of NO_x emissions from the thermal incinerator

Applicable Compliance Method:

Compliance with the hourly NO_x emission limitation shall be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-1 (100 lbs NO_x/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.098 lb NO_x/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate.

- i. Emission Limitation:
3.77 tons/year of NO_x emissions from the thermal incinerator

Applicable Compliance Method:

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

- j. Emission Limitation:
0.72 lb/hr of CO emissions from the thermal incinerator

Applicable Compliance Method:

Compliance with the hourly CO emission limitation may be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-1 (84 lbs CO/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.082 lb CO/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate. Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 10. The results of the emissions test shall be reported in terms of pounds per hour. Compliance shall be determined by comparing the stack test result to the sum of allowables from E.1.d and E.1.j (0.6 + 0.72 = 1.32 lb/hr).

- k. Emission Limitation:
3.15 tons/year of CO emissions from the thermal incinerator

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

- l. Emission Limitation:
0.1 lb/hr of OC emissions from the thermal incinerator

Compliance with the hourly OC emission limitation shall be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-2 (11 lbs OC/mmcf), by (1,020 mm Btu/10⁶ scf) to get 0.011 lb OC/mm Btu.

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This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate.

- m. Emission Limitation:
 0.44 ton/year of OC emissions from the thermal incinerator

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

- n. Emission Limitation:
 0.07 lb/hr of PE emissions from the thermal incinerator

Compliance with the hourly PE emission limitation shall be determined by dividing the emission factor taken from the U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors Section 1.4, Table 1.4-2 (7.6 lbs PE/mmcf), by $(1,020 \text{ mm Btu}/10^6 \text{ scf})$ to get 0.0075 lb PE/mm Btu. This was then multiplied by 8.8 mm Btu/hr to determine the lb/hr emission rate. Compliance with the emission limitation shall be demonstrated through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. The results of the emissions test shall be reported in terms of pounds per hour. Compliance shall be determined by comparing the stack test result to the sum of the allowables from E.1.f and E.1.n ($0.07 + 0.07 = 0.14$).

- o. Emission Limitation:
 0.31 ton/year of PE emissions from the thermal incinerator

The ton/year limitation was developed by multiplying the pound/hour limit by 8760 hours/year and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the hourly limitations, compliance will also be shown with the annual limitation.

F. Miscellaneous Requirements

- Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee 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 a new permit to install application would be required for an emissions unit if changes in the composition

of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.