



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov.
Center

RE: **FINAL PERMIT TO INSTALL MODIFICATION** CERTIFIED MAIL
RICHLAND COUNTY
Application No: 03-13048

DATE: 5/22/2003

Columbia Gas Transmission Corp - Pavonia
Michael Hoffman
P.O. Box 1273 1700 MacCorkle Ave SE
Charleston, WV 25325-1273

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

NWDO



**Permit To Install
Terms and Conditions**

**Issue Date: 5/22/2003
Effective Date: 5/22/2003**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 03-13048

Application Number: **03-13048**
APS Premise Number: **0370000226**
Permit Fee: **\$400**
Name of Facility: **Columbia Gas Transmission Corp - Pavonia**
Person to Contact: **Michael Hoffman**
Address: **P.O. Box 1273 1700 MacCorkle Ave SE
Charleston, WV 25325-1273**

Location of proposed air contaminant source(s) [emissions unit(s)]:
**2385Cotter Road
Mansfield, OHIO**

Description of modification:
Administrative modification to PTI 03-13048 to reflect a change in AP-42 emission factors.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

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GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

The proposed source(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 are inadequate or cannot meet applicable standards.

If the construction of the proposed source(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 Ohio Administrative Code (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 applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

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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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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.

PERMIT TO OPERATE APPLICATION AND OPERATION AFTER COMPLETION OF CONSTRUCTION

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

If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 source(s) covered by this permit.

SOURCE OPERATION 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 and regulations.

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Ohio EPA Source <u>Number</u>	Source Identification <u>Number</u>	BAT <u>Determination</u>	Applicable Federal & <u>OAC Rules</u>	Permit Allowable Mass Emissions and/or Control/Usage <u>Requirements</u>
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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Columbia Gas Transmission Corp - Pavonia** located in **RICHLAND** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source <u>Number</u>	Source Identification <u>Description</u>
P002	Triethylene glycol natural gas dehydrator no. 1 with regeneration boiler and thermal oxidizer
P002 Cont'd	

B002

P003

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
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BAT Determination

		Triethylene glycol natural gas dehydrator no. 2 with regeneration boiler and thermal oxidizer.	Natural gas thermal oxidizer with 95 percent control efficiency.	
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10.0
MMBTU/hour
natural gas fired
line heater no. 3

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
		Applicable Federal & <u>OAC Rules</u>		
		3745-31-05	3745-17-07	3745-17-07
			3745-31-28	3745-17-10
Compliance with the terms and conditions of this permit.	Natural gas thermal oxidizer with 95 percent control efficiency.		3745-17-10	
				3745-31-05

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
3745-17-07				2.04 ton Toluene/year
3745-31-05				20 percent opacity as a six minute average
	3745-17-07			*
	3745-31-28	3745-17-07	<u>Stack T01 (Thermal Oxidizer)</u>	See Additional Special Terms and Conditions A.1., B.1., C.1., E.1., and E.2.
			0.007 pound PE/hour	
	3745-17-10		0.03 ton PE/year	<u>Stack BL3</u>
			0.001 pound SO ₂ /hour	0.02 pound PE/MMBtu
			0.005 ton SO ₂ /year	0.05 pound PE/hour
				0.2 ton PE/year
			0.11 pound NO _x /hour	0.002 pound SO ₂ /hour
			0.48 ton NO _x /year	0.009 ton SO ₂ /year
			0.59 pound CO/hour	
			2.58 tons CO/year	0.2 pound NO _x /hour
				0.9 ton NO _x /year
			2.1 pounds VOC/hour	0.19 pound CO/hour
			5.0 tons VOC/year	0.81 ton CO/year
			2.08 tons Benzene/year	0.012 pound VOC/hour
			0.103 ton Hexane/year	0.05 ton

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
VOC/year	4.4 tons NO _x /year	2.58 tons CO/year	0.2 pound NO _x /hour	
2	0.82 pound CO/hour	2.1 pounds VOC/hour	0.9 ton NO _x /year	
percent opacity as a six minute average	3.61 ton CO/year	5.0 tons VOC/year	0.19 pound CO/hour	
*	0.054 pound VOC/hour	2.08 tons Benzene/year	0.81 ton CO/year	
<u>Stack H3</u>	0.24 ton VOC/year	0.103 ton Hexane/year	0.012 pound VOC/hour	
0.02 pound PE/MM Btu	20 percent opacity as a six minute average	2.04 tons Toluene/year	0.05 ton VOC/year	
0.2 pound PE/hour	*	20 percent opacity as a six minute average.		
0.88 ton PE/year	<u>Stack T01 (Thermal Oxidizer)</u>	*		
0.007 pound SO ₂ /hour	0.007 pound PE/hour	See Additional Special Terms and Conditions A.1., B.1., C.1., E.1., and E.2.		
0.03 ton SO ₂ /year	0.03 ton PE/year	<u>Stack BL4</u>		
1.0 pounds NO _x /hour	0.001 pound SO ₂ /hour	0.02 pound PE/MMBtu		
	0.005 ton SO ₂ /year	0.05 pound PE/hour		
	0.11 pound NO _x /hour	0.2 ton PE/year		
	0.48 ton NO _x /year	0.002 pound SO ₂ /hour		
	0.59 pound CO/hour	0.009 ton SO ₂ /year		

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<u>Ohio</u> <u>EPA</u> <u>Source</u> <u>Number</u>	<u>Source</u> <u>Identification</u> <u>Number</u>	<u>BAT</u> <u>Determination</u>	<u>Applicable Federal &</u> <u>OAC Rules</u>	<u>Permit Allowable</u> <u>Mass Emissions</u> <u>and/or Control/Usage</u> <u>Requirements</u>
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* The emission limit based on this applicable rule is less stringent than the limit established pursuant to OAC 3745-31-05.

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SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
PE	0.94
SO ₂	0.06
NO _x	7.16
CO	10.39
VOC	18.74

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Ohio EPA, Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.**

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

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In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Ohio EPA, Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

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.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

Introduction

This permit-to-install (PTI) is to allow the installation of two natural gas dehydrators and a line heater at Columbia Gas Transmission Corporation- Pavonia Compressor Station (hereinafter referred to as "permittee") located in Mansfield, Ohio. The facility's potential-to-emit exceeds 25 tons per year of Nitrogen Oxides and is therefore a major stationary source for Prevention of Significant Deterioration (PSD) purposes and are subject to Title V permitting requirements.

A. Applicable Emission Limitations and/or Control Requirements

1. The natural gas dehydrators, emission units P002 and P003 shall be controlled by connecting the process vents of emission units P002 and P003 through a closed-vent system to a thermal oxidizer that reduces the mass content of the VOCs and HAPs by 95 percent by weight.

The closed-vent system shall be designed and operated with no detectable emissions.

2. The natural gas dehydrators, emission units P002 and P003 are subject to Ohio Administrative Code (OAC) 3745-31-28.

B. Operational Restrictions

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1. Thermal Incinerator Operational Restriction

The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1200 degrees Fahrenheit.

2. The permittee shall prepare and follow written standard operating procedures that cover normal operation, system start-up, system shutdown, and system malfunction. The permittee shall prepare and follow written standard maintenance procedures. These procedures will be available for inspection and review by the Director or his authorized representative.

3. This permit allows the use of the materials specified by the permittee in the application for PTI number 03-3048. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the Benzene and Toluene emission limitation (s) specified in this permit were established in accordance with the Ohio EPA's "Air Toxics Policy" and are based on the Gas Research Institute's GRI Glycalc software, Version 3.0 and the design parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the Screen 3 model and a comparison of the predicted 1 hour maximum ground-level concentration to the MAGLC. The following summarizes the results of the modeling for each pollutant:

Pollutant: Benzene

TLV (ug/m3): 1600

Maximum Hourly Emission Rate (lbs/hr): 0.95

Predicted 1 hour maximum Ground-Level Concentration at the Fence line (ug/m3): 38.1

Maximum Acceptable Ground-Level Concentration (MAGLC) (ug/m3): 760

Pollutant: Toluene

TLV (ug/m3): 188,000

Maximum Hourly Emission Rate (lbs/hr): 0.93

Predicted 1 hour maximum Ground-Level Concentration at the Fence line (ug/m3): 35.02

Maximum Acceptable Ground-Level Concentration (MAGLC) (ug/m3): 4500

Any of the following changes may be deemed a "modification" to the emissions unit and, as such, prior notification to and approval from the Ohio EPA Northwest District Office are required, including the possible issuance of modifications to PTI number 03-3048 and the operating permit:

- a. Any changes in the composition of the materials, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
- b. Any change to the emissions unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height) that would result in an exceedance of any MAGLC specified in the above table;
- c. Any change to the emissions unit or its method of operation that would either require an increase in the emission limitation (s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01;
- d. Any change in the composition of the materials employed or use of new materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01 (B)(6)]; and,
- e. Any change in the composition of the process materials, or use of new materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" (HAPS) as defined in OAC rule 3745-77-01(V).

C. Monitoring and/or Recordkeeping Requirements

1. Thermal Incinerator Temperature Monitoring and Recordkeeping Requirements

The permittee shall 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 monitoring and recording devices shall be capable of plus or minus 1 percent accuracy measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations.

The permittee shall perform an initial inspection at startup of system components for visible emissions and leaks.

The permittee shall perform an annual inspection of system components for visible emissions and leaks.

To visually inspect the system components which includes, but not limited to, the closed-vent system, the permittee shall view the entire length of ductwork, piping and connections to covers and control devices for evidence of visible defects (such as holes in ductwork or piping and loose connections) that may effect the ability of the system to

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operate with no detectable emissions. A visible hole, gap, tear, or split in the closed-vent system is defined as a leak which shall be repaired on the first attempt no later than 5 calendar days after detected.

Repair of the leak shall be completed as soon as practicable, but no later than 15 calendar days after the leak is detected.

The permittee shall collect and record the following information for each day:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1200 degrees Fahrenheit;
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. The log shall also contain a record of the corrective action taken to repair or again begin operating the equipment; and,
- c. A record of all startup, shutdown and malfunction events.

All records required shall be retained for a period of five years from the date the record was created. All records shall be made available to the Director, or any authorized representative of the Director, for review during normal business hours.

D. Reporting Requirements

1. The permittee shall submit required reports in the following manner:

a. Thermal Incinerator Temperature Reporting Requirements

The permittee shall submit deviation (excursion) reports 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 above.

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 any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA Northwest District Office. 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.)

E. Testing Requirements and Compliance Method Determinations

1. The permittee shall conduct, or have conducted, emission testing of emissions units P002 and P003 within 180 days of initial operation of the emission units. The emissions testing shall demonstrate that the thermal oxidizer reduces VOC emissions vented to it by 95 percent. Testing shall be conducted in accordance with the requirements below. An alternative means of demonstrating compliance is described in term E.2. below.

a. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate (s) for VOC and the thermal oxidizer destruction efficiency requirement for VOC.

b. The following test method (s) shall be employed to demonstrate compliance with the allowable mass emission rate (s) for VOC:

Method 18, of 40 CFR Part 60, Appendix A.

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

"As an alternative to the procedures detailed above the permittee may elect to use

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the procedures documented in the Gas Research Institute Report entitled "Atmospheric Rich/Lean Method for Determining Glycol Dehydrator Emissions," (GRI-95/0368.1) for determination of uncontrolled mass emissions at the inlet to the control device."

- c. The test (s) shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA Northwest District Office.

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

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

A comprehensive written report on the results of the emissions test (s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northwest District Office 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 Ohio EPA Northwest District Office.

2. As an alternative to demonstrating compliance with an emissions test the permittee may submit a design analysis which includes analysis of the vent stream characteristics and control device operating parameters for a thermal vapor incinerator. The design analysis shall include the vent stream composition, constituents concentrations, flow rate and shall establish the design minimum and average temperatures in the combustion zone and the combustion zone residence time.

If the permittee and Ohio EPA do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the permittee in accordance with the methods

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outlined in term E.1. above.

3. Compliance with the emission limitations in the air emission summary shall be determined in accordance with the following method (s):

- a. Emission Limitation

P002 <u>Stack T01</u>	0.007 lb PE/hr & 0.03 TPY
P003 <u>Stack T01</u>	0.007 lb PE/hr & 0.03 TPY

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Applicable Compliance Method

Compliance shall be determined through use of AP-42 emission factors, from Section 1.4-1, 0.0045 lb/MMBTU dated 1/95 and a maximum heat input rate of 3.1 MMBTU/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 5 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

b. Emission Limitation

P002 <u>Stack T01</u>	0.001 lb SO ₂ /hr & 0.005 TPY
P003 <u>Stack T01</u>	0.001 lb SO ₂ /hr & 0.005 TPY

Applicable Compliance Method

Compliance shall be determined based on emission factors derived from natural gas sulfur content via material balance. The SO₂ emission factor 0.00071 lb SO₂/MMBtu shall be based on 0.25 grain of sulfur per 100 standard cubic feet of natural gas. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 6 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

c. Emission Limitation

P002 <u>Stack T01</u>	0.11 lb NO _x /hr & 0.48 TPY
P003 <u>Stack T01</u>	0.11 lb NO _x /hr & 0.48 TPY

Applicable Compliance Method

Compliance shall be determined based on emission factors derived from Radian's August 1995 test report on thermal oxidizers, "Performance Evaluation of the Thermal Oxidizer on Dehydrator #6 at Manlove Storage Facility." The NO_x emission factor 0.071 lb NO_x/MMBtu based on test results of a similar 1400 degree Fahrenheit oxidizer which emitted 0.179 lb NO_x/hr. If required, the permittee shall demonstrate compliance with the above emissions limits pursuant to Method 7 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

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d. Emission Limitation

P002 <u>Stack T01</u>	0.59 lb CO _x /hr & 2.58 TPY
P003 <u>Stack T01</u>	0.59 lb CO _x /hr & 2.58 TPY

Applicable Compliance Method

Compliance shall be determined based on emission factors derived from Radian's August 1995 test report on thermal oxidizers, "Performance Evaluation of the Thermal Oxidizer on Dehydrator #6 at Manlove Storage Facility." The CO emission factor 0.38 lb CO/MMBtu was based on test results of a similar 1400 degrees Fahrenheit oxidizer which emitted 0.967 lb CO/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 10 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

e. Emission Limitation

P002 <u>Stack T01</u>	1.14 lbs VOC/hr & 5.0 TPY
P003 <u>Stack T01</u>	1.14 lbs VOC/hr & 5.0 TPY

Applicable Compliance Method

Compliance shall be determined through use of through the use of emission estimates from the Gas Research Institutes GLYCalc (Version 3) software program run at 700 psig and 20 lbs water. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 18, 25 or 25A of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

f. Emission Limitation

P002 <u>Stack T01</u>	20 percent opacity as a six minute average
P003 <u>Stack T01</u>	20 percent opacity as a six minute average

Applicable Compliance Method

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If required, compliance shall be demonstrated pursuant to OAC 3745-17-03 (B)(1).

g. Emission Limitation

P002 <u>Stack BL3</u>	0.02 lb PE/MMBTU 0.05 lb PE/HR & 0.2 TPY
P003 <u>Stack BL4</u>	0.02 lb PE/MMBTU 0.05 lb PE/HR & 0.2 TPY

Applicable Compliance Method

Compliance with the emission limit of 0.02 lb Particulate/MMBTU heat input shall be determined in accordance with OAC 3745-17-03 (B)(100). In the absence of Ohio EPA requiring such testing, compliance shall be determined using calculations based on AP-42

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emission factor for natural gas combustion. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

h. Emission Limitation

P002 Stack BL3 0.002 lb SO₂/hr & 0.009 TPY
P003 Stack BL4 0.002 lb SO₂/hr & 0.009 TPY

Applicable Compliance Method

Compliance shall be determined based on emission factors derived from natural gas sulfur content via material balance. The SO₂ emission factor 0.00071 lb SO₂/MMBtu shall be based on 0.25 grain of sulfur per 100 standard cubic feet of natural gas. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 6 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

i. Emission Limitation

P002 Stack BL3 0.2 lb NO_x/hr & 1.0 TPY
P003 Stack BL4 0.2 lb NO_x/hr & .0 TPY

Applicable Compliance Method

Compliance shall be determined through use of AP-42 emission factors from Section 1.4-2, (January 1995) Commercial boilers less than 10 MMBtu/hr. 0.1 lb NO_x/MMBTU and a maximum heat input rate of 2.25 MMBTU/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 7 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

j. Emission Limitation

P002 Stack BL3 0.19 lb CO_x/hr & 0.81 TPY
P003 Stack BL4 0.19 lb CO_x/hr & 0.81 TPY

Applicable Compliance Method

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Compliance shall be determined through use of AP-42 emission factors from Section 1.4-2, (July 1998) Commercial boilers less than 10 MMBtu/hr. 0.0824 lb CO/MMBTU and a maximum heat input rate of 2.25 MMBTU/hr. If required, the permittee shall demonstrate

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compliance with the above emissions limit pursuant to Method 10 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

k. Emission Limitation

P002 Stack BL3 0.012 lb VOC/hr & 0.05 TPY
P003 Stack BL4 0.012 lb VOC/hr & 0.05 TPY

Applicable Compliance Method

Compliance shall be determined through use of AP-42 emission factors from table 1.4-3, (January 1995) Commercial boilers less than 10 MMBtu/hr. An emission factor of 0.0053 lb VOC/MMBTU and a maximum heat input rate of 2.25 MMBTU/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 18, 25 or 25A of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

l. Emission Limitation

P002 Stack BL3 20 percent opacity as a six minute average
P003 Stack BL4 20 percent opacity as a six minute average

Applicable Compliance Method

If required, compliance shall be demonstrated pursuant to OAC 3745-17-03 (B)(1)

m. Emission Limitation

B002 Stack H3 0.02 lb PE/MMBTU 0.2 lb PE/hr & 0.88 TPY

Applicable Compliance Method

Compliance with the emission limit of 0.02 lb Particulate/MMBTU heat input shall be determined in accordance with OAC 3745-17-03 (B)(10). In the absence of Ohio EPA requiring such testing, compliance shall be determined using calculations based on AP-42 emission factor for natural gas combustion. The annual limits are

based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

n. Emission Limitation

B002 Stack H3 0.007 lb SO₂/hr & 0.03 TPY

Applicable Compliance Method

Compliance shall be determined based on emission factors derived from natural gas sulfur content via material balance. The SO₂ emission factor 0.00071 lb SO₂/MMBtu shall be based on 0.25 grain of sulfur per 100 standard cubic feet of natural gas. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 6 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

o. Emission Limitation

B002 Stack H3 1.0 lb NO_x/ hr & 4.4 TPY

Applicable Compliance Method

Compliance shall be determined through use of AP-42 emission factors from Section 1.4-2, (January 1995) Commercial boilers less than 10 MMBtu/hr. 0.1 lb NO_x/MMBTU and a maximum heat input rate of 10 MMBTU/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 7 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

p. Emission Limitation

B002 Stack H3 0.82 lb CO/ hr & 3.61 TPY

Applicable Compliance Method

Compliance shall be determined through use of AP-42 emission factors from Section 1.4-2, (July 1998) Commercial boilers less than 10 MMBtu/hr. 0.0824 lb CO/MMBTU and a maximum heat input rate of 10.0 MMBTU/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 10 of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

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q. Emission Limitation

B002 Stack H3 0.054 lb VOC/hr & 0.24 TPY

Applicable Compliance Method

Compliance shall be determined through use of AP-42 emission factors from Section 1.4-2, (July 1998) Commercial boilers less than 10 MMBtu/hr. An emission factor of 0.00539 lb VOC/MMBTU and a maximum heat input rate of 2.25 MMBTU/hr. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Method 18, 25 or 25 A of 40 CFR Part 60, Appendix A. The annual limits are based on each emissions unit's potential to emit i.e., the hourly emission rates multiplied by 8760 hours of operation, and divided by 2000 lbs/ton.

r. Emission Limitation

B002 Stack H3 20 percent opacity as a six minute average

Applicable Compliance Method

If required, compliance shall be demonstrated pursuant to OAC 3745-17-03 (B)(1)

s. Monitor a closed-vent system for no detectable emissions, the permittee shall use Method 21, 40 CFR Part 60, Appendix A to test each closed-vent system joint, seam, or other connection. For annual leak detection monitoring after the initial leak detection monitoring, the permittee is not required to monitor those closed-vent system components which continuously operate at a pressure below atmospheric pressure or those closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of metal pipe or a bolted and gasketed pipe flange).

F. MISCELLANEOUS REQUIREMENTS

None