EQT
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Charleston, WV 25301
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Heather Walker
Environmental Coordinator

December 14, 2011

Certified Mail: 7011 0110 0002 1648 2035

Mr. John A. Benedict, Director
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Subject: Title V Permit Renewal Application for Equitrans, Inc. – Copley Run Compressor Station

Dear Mr. Benedict:

Equitrans, Inc. (EQT) is submitting this Title V permit renewal application for its natural gas compressor station located in Lewis County, West Virginia ("Copley Run Compressor Station"). This station is currently operating under permit R30-04100009-2007, issued June 15, 2007. The current permit expires on June 15, 2012, with a renewal application due date of December 15, 2011. The emission sources at the Copley Run Compressor Station include one (1) 2250 hp compressor engine installed in 1981, three (3) 1350 HP compressor engines installed in 1981 and 1993, one (1) 1800 hp compressor engine installed in 1980, one (1) 3000 hp electric compressor installed in 2010, two (2) 2.2 MMBtu/hr non-emergency generators, one (1) heating boiler, and one (1) hot water heater. The facility also includes six storage tanks ranging in capacity from 2,000 gallons to 20,000 gallons. This permit application is being filed to renew the Title V permit at the Copley Run Compressor Station.

The Title V Permit Application Form and required supporting documents in accordance with the instructions for Title V permit application forms are enclosed as outlined below:

- Title V Permit Application General Forms
- Attachment A: Area Map
- Attachment B: Plot Plan
- Attachment C: Process Flow Diagram
- Attachment D: Title V Equipment Table
- Attachment E: Emission Unit Forms
- Attachment F: Site-Wide Emission Calculations
- Attachment G: Air Pollution Control Device Forms

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- Attachment H: Compliance Assurance Monitoring Plan
- Emission Calculations

Please contact me at (304) 348-3841 or via email at hwalker@eqt.com with any questions on this application.

Sincerely,

Heather Walker
Environmental Coordinator

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. **Name of Applicant (As registered with the WV Secretary of State's Office):**
Equitrans, LP

2. Facility Name or Location:
Copley Run Compressor Station #70

3. DAQ Plant ID No.:
0 4 1 — 0 0 0 0 9

4. Federal Employer ID No. (FEIN):
5 5 6 0 0 0 7 6 9 W

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence? 06/17/2002
☒ Permit Renewal — What is the expiration date of the existing permit? 06/15 /2012
☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity:

☒ Corporation ☐ Governmental Agency ☐ LLC
☐ Partnership ☐ Limited Partnership

7. Is the Applicant the:

☐ Owner ☐ Operator ☒ Both

If the Applicant is not both the owner and operator, please provide the name and address of the other party.

8. Number of onsite employees:
6

9. Governmental Code:

☒ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☐ Yes ☒ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: Route 4, PO Box 640		
City: Weston	**State:** WV	**Zip:** 26452
Telephone Number: (304) 269-6429	**Fax Number:** (412) 395-3166	

12. Facility Location		
Street: Copley Road	**City:** Weston	**County:** Lewis
UTM Easting: 541.30 km	**UTM Northing:** 4,314.80 km	**Zone:** ☒ 17 or ☐ 18
Directions: Interstate 79 to Exit 91. Proceed toward Weston for approximately 1 mile, take a left onto Copley Road (Route 17). The station is approximately ½ mile on the left.		
Portable Source? ☐ Yes ☒ No		
Is facility located within a nonattainment area? ☐ Yes ☒ No		**If yes, for what air pollutants?**
Is facility located within 50 miles of another state? ☒ Yes ☐ No		**If yes, name the affected state(s).** Ohio
Is facility located within 100 km of a Class I Area[1]? ☒ Yes ☐ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☐ No		**If yes, name the area(s).** Otter Creek

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Mr. Christopher Akers		**Title:** Vice President – Midstream Operations
Street or P.O. Box: 625 Liberty Avenue, Suite 1700		
City: Pittsburgh	**State:** PA	**Zip: 15222**
Telephone Number: (304) 348-3804	**Fax Number:** (412) 395-3166	
E-mail address: cakers@eqt.com		
Environmental Contact: Ms. Heather Walker		**Title:** Environmental Coordinator
Street or P.O. Box: 550 Eagan Street		
City: Charleston	**State:** WV	**Zip:** 25301
Telephone Number: (304) 348-3841	**Fax Number:** (304) 344-0726	
E-mail address: hwalker@eqt.com		
Application Preparer: Ms. Christi Wilson		**Title:** Managing Consultant
Company: Trinity Consultants		
Street or P.O. Box: 5320 Spectrum Drive, Suite A		
City: Frederick	**State:** MD	**Zip: 21703**
Telephone Number: (724) 360-8148	**Fax Number:** (240) 379-7491	
E-mail address: cwilson@trinityconsultants.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Natural Gas Transmission Facility	Natural gas storage and transmission	48621	4922

Provide a general description of operations.

The Copley Run Compressor Station #70 is a natural gas transmission facility covered by Standard Industrial Classification (SIC) 4922. The station has the potential to operate twenty-four (24) hours per day, seven (7) days per week. This station consists of three (3) 1350 hp natural gas fired compressor engines, one (1) 2250 hp natural gas fired compressor engine, one (1) 1800 hp natural gas fired compressor engine, one (1) 3000 hp electric compressor engine, two (2) 2.2 MMBtu/hr natural gas fired electric generators, two (2) triethylene glycol dehydration units and associated reboilers, one (1) flare and six (6) tanks of various sizes.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☒ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☒ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS	☒ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ Compliance Assurance Monitoring (40CFR64)
☐ CAIR NO_x Annual Trading Program (45CSR39)	☐ CAIR NO_x Ozone Season Trading Program (45CSR40)
☐ CAIR SO_2 Trading Program (45CSR41)	

19. Non Applicability Determinations
List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies. 40 CFR part 60 Subpart Dc – The boilers at Copley Run station are below 10 mmBtu/hr. 40 CFR part 60 Subpart GG – There are no turbines at Copley Run Station. 40 CFR part 60 Subparts K, Ka – All tanks at Copley Run station are less than 40,000 gallons in capacity. 40 CFR part 60 Subpart KKK – Copley Run station is not engaged in the extraction of natural gas liquids from field gas or in the fractionation of mixed natural gas liquids to natural gas products. 40 CFR part 60 Subpart LLL – There are no sweetening units at Copley Run station. 40 CFR part 60 Subpart III – The engines at Copley Run Station are not stationary compression ignition (CI) internal combustion engines (ICE). 40 CFR part 63 Subpart HH, HHH – Copley Run station is a major source of HAPS, but qualifies for the 1 ton of benzene exemption for each dehydration unit.
☒ Permit Shield

19. Non Applicability Determinations *(Continued)* *- Attach additional pages as necessary.*

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

45 CSR 21: The Copley Run Compressor Station is not located in Cabell, Kanawha, Putnam, Wayne, nor Wood counties.

45CSR27 – Natural gas is included as a petroleum product and contains less than 5% benzene by weight. CSR§45-27-2.4 exempts equipment "used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight."

☒ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

C.S.R. §45-6-3.1 R30-04100009-2002 Permit condition: III.B.1.a.i

C.S.R. §45-6-3.2 R30-04100009-2002 Permit condition: III.B.1.a.ii

40 C.F.R. §§61.145, 61.148, and 61.150. R30-04100009-2002 Permit condition: III.B.1.a.iii

C.S.R. §45-30-4.3.h.1.B R30-04100009-2002 Permit condition: III.B.1.a.iv

WV Code §22-5-4(a)(15) R30-04100009-2002 Permit condition: III.B.1.a.v

C.S.R. §45-4-3.1 R30-04100009-2002 Permit condition: III.B.1.b.i (Note: C-001 thru C-005 exempt)

C.S.R. §45-13-10.5 R30-04100009-2002 Permit condition: III.B.1.b.ii

C.S.R. §45-11-5.2 R30-04100009-2002 Permit condition: III.B.2.a.i

WV Code §22-5-4(a)(14) R30-04100009-2002 Permit condition: III.B.2.a.ii

C.S.R. §45-2-3.1 R30-04100009-2002 Permit condition: III.B.2.a.iii. (for emission points G-001, G-002, 003-01, 003-02 & Dehy (indirect heater) only)

C.S.R. §45-10-4.1 R30-04100009-2002 Permit Condition: III.B.2.a.iv. (for C-001, C-002, C-003, C-004, C-005, C-006 only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.iv. to remove mention of C-006

C.S.R. §45-10-5.1 R30-04100009-2002 Permit Condition: III.B.2.a.v. (for C-001, C-002, C-003, C-004, C-005, C-006 only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.v. to remove mention of C-006

C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for C-005, Equipment ID number CE-5 in Permit R13-2397, only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.vi. to replace SO2, PM10, and HAPs emission limits as follows: SO2 = 0.006 lb/yr, 0.022 tpy; PM10 = 0.479 lb/yr, 1.846 tpy; HAPs = 0.789 lbs/hr, 3.04 tpy and set applicable for all compressors. In addition, remove compliance demonstration condition number III.C.5.

C.S.R. §45-13 (Permit R13-2397) R30-04100009-2002 Permit Condition: III.B.2.a.vii. (for C-005, Equipment ID number CE-5 in Permit R13-2397, only)

C.S.R. §45-6-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.viii. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-6-4.3. R30-04100009-2002 Permit Condition: III.B.2.a.ix. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-6-4.6. R30-04100009-2002 Permit Condition: III.B.2.a.x. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-10-4.1. R30-04100009-2002 Permit Condition: III.B.2.a.iv. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.iv. to remove compliance demonstration condition number III.C.7.

C.S.R. §45-10-5.1. R30-04100009-2002 Permit Condition: III.B.2.a.v. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for Dehy Flare, Equipment ID number 004-01 in Permit R13-2397, only)

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for Dehy, Equipment ID number 004-02 in Permit R13-2397, only)

20. Facility-Wide Applicable Requirements *(Continued)* *- Attach additional pages as necessary.*

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.xi. (for Dehy Flare and Dehy, Equipment ID number 004-01 and 004-02 in Permit R13-2397, only)

C.S.R §45-30-12.7: Adjust Permit Condition III.B.2.a.xi. to replace Benzene emission limit to <1 tpy and set applicable for both dehydration units. Also adjust language to read "The facility shall emit the following HAPs in the associated amounts:"

C.S.R. §45-13 (Permit R13-2397). R30-04100009-2002 Permit Condition: III.B.2.a.vi. (for Dehy Flare, Dehy, and C-005 - Equipment ID number 004-01, 004-02 and CE-5 in Permit R13-2397, only)

C.F.R. §40-60.116b(a) and (b). R30-04100009-2002 Permit condition: III.B.2.a.xii (for Copley 2 only)

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See attached sheet: "Specific Monitoring, Testing, Recordkeeping, Reporting Methods"

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

☒ Permit Shield

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
R30-0410009-2007	06/15/2007	
R13-2397B	05/07/2007	
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22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number
R30-04100009-2002	06/17/2002	
R13-2397A	/ /	
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	198.71
Nitrogen Oxides (NO_X)	533.77
Lead (Pb)	n/a
Particulate Matter ($PM_{2.5}$)[1]	12.86
Particulate Matter (PM_{10})[1]	12.86
Total Particulate Matter (TSP)	12.86
Sulfur Dioxide (SO_2)	0.17
Volatile Organic Compounds (VOC)	44.98
Hazardous Air Pollutants[2]	Potential Emissions
Total HAPS	21.90
Benzene	0.75
Ethylbenzene	0.18
Toluene	0.45
Xylenes	0.28
n-Hexane	0.29
Formaldehyde	14.49
Regulated Pollutants other than Criteria and HAP	Potential Emissions
Carbon Dioxide Equivalent (CO_2e)	35,191

[1] $PM_{2.5}$ and PM_{10} are components of TSP.
[2] For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)		
☒	1.	Air compressors and pneumatically operated equipment, including hand tools.
☐	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☒	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☒	4.	Bathroom/toilet vent emissions.
☒	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☐	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☒	8.	Boiler water treatment operations, not including cooling towers.
☒	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☒	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☒	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☒	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☐	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☐	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☒	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis: 1 – 4000 gallon triethylene glycol storage tank 1 – 20000 gallon pipeline condensate storage tank 1 – 2000 gallon crude oil storage tank 1 – 2000 gallon methanol storage tank 1 – 7500 gallon used oil storage tank 1 – 3000 gallon ambitrol storage tank VOC emissions from leaking valves, compressors, and connectors. VOC emissions from 1 maintenance degreaser/cold cleaner

24. Insignificant Activities (Check all that apply)		
☐	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☐	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☒	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☒	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☒	26.	Fire suppression systems.
☐	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☒	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☐	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☒	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☐	33.	Hydraulic and hydrostatic testing equipment.
☐	34.	Indoor or outdoor kerosene heaters.
☒	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☒	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☐	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.
☒	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant

24. Insignificant Activities (Check all that apply)		
		owners/operators must still get a permit if otherwise requested.)
☒	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☒	43.	Process water filtration systems and demineralizers.
☐	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☒	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☐	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☐	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☐	50.	Space heaters operating by direct heat transfer.
☐	51.	Steam cleaning operations.
☐	52.	Steam leaks.
☐	53.	Steam sterilizers.
☐	54.	Steam vents and safety relief valves.
☐	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☒	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☐	57.	Such other sources or activities as the Director may determine.
☐	58.	Tobacco smoking rooms and areas.
☒	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table
Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.
26. Emission Units
For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.
For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.
27. Control Devices
For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.
For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Christopher Akers	Title: Vice President – Midstream Operations

Responsible official's signature:

Signature: _____ Signature Date: 12/13/11

(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:	
☒	ATTACHMENT A: Area Map
☒	ATTACHMENT B: Plot Plan(s)
☒	ATTACHMENT C: Process Flow Diagram(s)
☒	ATTACHMENT D: Equipment Table
☒	ATTACHMENT E: Emission Unit Form(s)
☐	ATTACHMENT F: Schedule of Compliance Form(s)
☒	ATTACHMENT G: Air Pollution Control Device Form(s)
☒	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

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All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

TITLE V PERMIT RENEWAL APPLICATION
EQUITRANS, LP
COPLEY RUN COMPRESSOR STATION #70

PERMIT NO. R30-04100009-2007

PERMIT NO. R13-2397B

WESTON, WEST VIRGINIA

TRINITY CONSULTANTS
5320 Spectrum Drive
Suite A
Frederick, MD 21703
(240) 379-7490

December 9, 2011

Project 112101.0006

Trinity Consultants

Equitrans, LP (Equitrans) operates a natural gas transmission facility in Weston, West Virginia referred to as the Copley Run Compressor Station #70 (the Copley Run Station). The Copley Run Station is currently operating in accordance with West Virginia Department of Environmental Protection (WVDEP) Division of Air Quality Title V operating permit R30-04100009-2007, last issued on June 15, 2007.

The current Title V permit expires June 15, 2012. Equitrans is submitting this timely and complete permit renewal application by the renewal submission deadline of December 15, 2011, (i.e., six months before the expiration of the current permit) in accordance with Series 30, Section 4.1.a.3 of the WVDEP Division of Air Quality (DAQ) Code of State Rules (C.S.R.) §45-30-4.1.a.3. Presuming WVDEP finds this application administratively complete, Equitrans may continue to operate the Copley Run Station under the terms of the existing Title V permit until the renewed permit is issued, even if this issuance would occur after the current permit's expiration date.

1.1 FACILITY DESCRIPTION

The Copley Run Station is a natural gas gathering facility covered under Standard Industrial Classification (SIC) Code 4922. The station has the potential to operate 24 hours per day, 7 days per week. The station consists of five (5) natural gas reciprocating engine/integral compressors (three 1350-hp engines, one 2250-hp engine, and one 1800-hp engine), one electric compressor (3000-hp engine), two natural gas-fired electric generator (2.2 MMBtu/hr each), a triethylene glycol (TEG) dehydration unit equipped with a flare and a reboiler, a TEG dehydration unit equipped with an indirect heater and a reboiler, and six (6) storage tanks of various sizes. The facility also operates a comfort heating boiler and a hot water heater, both of which are considered insignificant sources under Title V.

A description of each source category is included below. A process flow diagram is included as Appendix C.

1.1.1 DEHYDRATION UNITS

The Copley Run Station process involves the storage and transmission of natural gas. The station includes two glycol dehydration units that are operated to remove water vapor from the natural gas. The gas contacts lean triethylene glycol (TEG), which absorbs the water from the gas. The dehydrated gas leaves the dehydration tower at the top and returns to the process for compression by the engines. The water-rich TEG leaves the dehydration tower at the bottom and is routed to a re-concentration system (reboiler) where the water and organic impurities are driven from the TEG by heating. The cleaned TEG is then re-used in the contact tower. For the storage dehydration unit (Dehy #1), the water vapor and organics driven from the TEG during regeneration are passed through a flare to minimize emissions of volatile organic compounds (VOC) and organic hazardous air pollutants (HAP). The flare has an estimated destruction efficiency of 98% of VOC/HAP, and is integral to the dehydration unit. For the transmission dehydration unit (Dehy #2), the water vapor and organics driven from the TEG during regeneration are reintroduced into the reboiler system as fuel for the

reboiler. A secondary benefit of this recirculation system is the coincidental combustion of VOC and organic HAP. This combustion system has an estimated destruction efficiency of 95% of VOC/HAP, and is also integral to the dehydration unit. Two additional emission sources involved with the dehydration units are the combustion exhausts for the 2.2 MMBtu/hr natural gas fired-reboilers associated with each unit, which provide the heat to drive off the water and impurities from the water-rich TEG. One additional emissions source involved with Dehy #2 is the combustion exhaust for the 1.2 MMBtu/hr natural gas-fired indirect heater, which is used to preheat the natural gas prior to dehydration.

1.1.2 Compressor Engines

The Copley Run Station also includes five (5) natural gas-fired reciprocating engines and one electric engine used to power reciprocating compressors that move the compressed natural gas through pipelines. These engines are two-stroke lean-burn engines ranging in size from 1350 hp to 3000 hp. The function of the reciprocating compressors is to raise the discharge pressure of the gas in the pipeline to overcome the effect of frictional losses in the pipeline upstream of the station, in order to maintain the required suction pressure at the next station downstream or at various downstream delivery points. Compressor Engine #5 is limited to 7,709 hours per year of operation.

1.1.3 Storage Tanks

The Copley Run Station operates six (6) horizontal fixed roof storage tanks ranging in capacity from 2,000 gallons to 20,000 gallons. The storage tanks contain various purchased materials (e.g., triethylene glycol, lube oil, methanol, etc.) as well as site-generated materials (e.g., pipeline condensate, used oil, etc.).

1.1.4 Miscellaneous Sources

Additional combustion sources at the station include two natural gas-fired emergency backup electric generators (four-stroke rich-burn engines, rated at 2.2 MMBtu/hr each), a small natural gas-fired boiler for comfort heating (rated at 0.675 MMBtu/hr), and a small natural gas-fired hot water heater (rated at 0.03 MMBtu/hr).

1.2 Title V Renewal Application Organization

This Title V permit renewal application is organized as follows:

- Section 2 contains an overview of regulatory applicability for the Copley Run Station;
- Section 3 contains details of the compliance assurance monitoring plan;
- Section 4 contains sample emission source calculations;
- Section 5 contains the required WVDEP application forms;
- Attachment A contains an area map;
- Attachment B contains a plot plan;
- Attachment C contains a process flow diagram;

- Attachment D contains the WVDEP Title V equipment table;
- Attachment E contains a WVDEP emission unit form for each emission unit at the Copley Run Station;
- Attachment F contains site-wide emission calculations;
- Attachment G contains air pollution control device information; and
- Attachment H contains the Compliance Assurance Monitoring (CAM) plan form.

2. REGULATORY APPLICABILITY

A key objective of a Title V operating permit application is to compile all applicable Clean Air Act-derived requirements into one document. The requirements can be categorized as (1) emission limits and work practice standards, and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations. Regulations potentially applicable to Copley Run are detailed in the "*Applicable Requirements*" sections of forms provided by the WVDEP contained in Section 5 of this report.

Additional details on applicability for several regulations are presented in this section. Specifically, the remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Copley Run Station. Applicability or non-applicability of the following regulatory programs is addressed:

- Prevention of Significant Deterioration (PSD) permitting;
- Title V of the 1990 Clean Air Act Amendments;
- New Source Performance Standards (NSPS);
- National Emission Standards for Hazardous Air Pollutants (NESHAP);
- Compliance Assurance Monitoring (CAM);
- Risk Management Plan (RMP);
- Stratospheric Ozone Protection; and
- West Virginia State Implementation Plan (SIP) regulations.

This review is presented to supplement and/or add clarification to the information provided in the WVDEP Title V application forms, which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements.

In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing the WVDEP to confirm that identified regulations are not applicable to the Copley Run Station. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Copley Run Station. Regulations that are categorically non-applicable are not discussed (e.g., NSPS Subpart J, *Standards of Performance for Petroleum Refineries*).

2.1 Prevention of Significant Deterioration (PSD) Source Classification

Federal construction permitting programs regulate new sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new sources of non-attainment pollutants under Non-Attainment New Source Review (NNSR). PSD and NNSR regulations apply when a major source makes a change, such as installing new equipment or modifying existing equipment, and a significant increase in emissions results from the change. The Copley Run Station is a major source with respect to the NSR program, and as such when undertaking modifications may be subject to NSR permit requirements. Because the Title V permit renewal process is not intended to accommodate any changes or modifications to the facility that are not currently permitted at the facility, NSR/PSD permitting is not triggered by this activity but could be by future activities at the site.

2.2 Title V Operating Permit Program

Title 40 of the Code of Federal Regulations Part 70 (40 CFR 70) establishes the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program in its Title V operating permit program in CSR 45-30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single HAP, 25 tpy of any combination of HAP, and 100 tpy of all other regulated pollutants. The potential emissions of at least one regulated pollutant exceed the corresponding threshold(s) at this facility. Therefore, the Copley Run Station is classified as a major source for Title V purposes. The Copley Run Station currently operates under Title V operating permit No. R30-04100009-2007. This renewal application is being submitted to meet the requirements of the Title V program.

2.3 New Source Performance Standards

New Source Performance Standards (NSPS), located in 40 CFR 60, require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Moreover, any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except where expressly noted. The following is a summary of applicability and non-applicability determinations for NSPS regulations of relevance to the Copley Run Station.

2.3.1 NSPS Subparts D, Da, Db, and Dc

These subparts apply to steam generating units of various sizes, all greater than 10 MMBtu/hr. The Copley Run Station does not have any steam generating units greater than 10 MMBtu/hr, therefore the requirements of these subparts do not apply.

2.3.2 NSPS Subparts K, Ka, and Kb

These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods. Subpart K applies to storage tanks constructed, reconstructed, or

modified prior to 1978, and Subpart Ka applies to those constructed, reconstructed, or modified prior to 1984. Both Subparts K and Ka apply to storage tanks with a capacity greater than 40,000 gallons. Subpart Kb applies to volatile organic liquid (VOL) storage tanks constructed, reconstructed, or modified after July 23, 1984 with a capacity equal to or greater than 75 m^3 (~19,813 gallons). All storage tanks at the Copley Run Station were constructed after this date, but only one (Copley 2) has a capacity greater than 75 m^3. Subpart Kb does not apply to storage tanks greater than 75 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kPa (~2.175 psi). Storage tank Copley 2 is used to store pipeline condensate, which has a vapor pressure less than 15.0 kPa. Therefore, Subpart Kb does not apply to the storage tanks at the Copley Run Station.

2.3.3 NSPS Subpart KKK – Equipment Leaks of VOC From Onshore Natural Gas Processing Plants

A natural gas processing plant is defined as any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both. Although this subpart includes requirements for compressors, dehydration units, and storage tanks, it only applies to those units located at a processing plant. The operations at the Copley Run Station do not meet the definition of a processing plant. Therefore, the requirements of this subpart do not apply to the emission units at the Copley Run Station.

2.3.4 NSPS Subpart LLL – Onshore Natural Gas Processing: SO_2 Emissions

This subpart applies to each sweetening unit, and each sweetening unit followed by a sulfur recovery unit, at a natural gas processing plant. The Copley Run Station does not meet the definition of a natural gas processing facility, nor does the station include a sweetening unit. Therefore, the requirements of this subpart do not apply.

2.3.5 NSPS Subpart IIII – Stationary Compression Ignition Internal Combustion Engines

This Subpart applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines (ICE) that have been constructed, reconstructed, or modified after various dates, the earliest of which is July 11, 2005. All of the engines at the Copley Run Station, including emergency generators, are spark ignition IC engines, and therefore the requirements of this subpart do not apply.

2.3.6 NSPS Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines

This subpart applies to manufacturers, owners, and operators of stationary spark ignition internal combustion engines (ICE) that have been constructed, reconstructed, or modified after various dates, the earliest of which is June 12, 2006. All of the spark ignition ICE engines at the Copley Run Station, including emergency generators, were installed prior to 2006 (latest

installation date is 1984) and have not been modified or reconstructed, and therefore the requirements of this subpart do not apply.

2.3.7 Non-Applicability of All Other NSPS

NSPS are developed for particular industrial source categories. Other than NSPS developed for natural gas processing plants (Subparts KKK and LLL) and associated equipment (Subparts D-Dc and K-Kb), the applicability of a particular NSPS to the Copley Run Station can be readily ascertained based on the industrial source category covered. All other NSPS are categorically not applicable to natural gas processing facilities.

2.4 National Emission Standards for Hazardous Air Pollutants (NESHAP)

Part 63 NESHAP allowable emission limits are established on the basis of a maximum achievable control technology (MACT) determination for a particular major source. A HAP major source is defined as having potential emissions in excess of 25 tpy for total HAP and/or potential emissions in excess of 10 tpy for any individual HAP. NESHAP apply to sources in specifically regulated industrial source categories (Clean Air Act Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type. Besides 40 CFR 63 Subpart A (NESHAP Subpart A), which is similar to 40 CFR 60 Subpart A (NSPS Subpart A), the following NESHAP could potentially apply to the Copley Run Station:

40 CFR Part 63 Subpart HH – Oil and Natural Gas Production Facilities
40 CFR Part 63 Subpart HHH – Natural Gas Transmission and Storage Facilities
40 CFR Part 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (RICE)
40 CFR Part 63 Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters

The applicability of these NESHAP Subparts is discussed in the following sections.

2.4.1 40 CFR 63 Subpart HH – Oil and Natural Gas Production Facilities

This MACT standard contains requirements for dehydration units, located at natural gas production facilities. The operations at the Copley Run Station are limited to the storage and transmission of natural gas only (not production). Because the Copley Run Station does not meet the definition of a natural gas production facility per 40 CFR §63.761, the requirements of this subpart do not apply.

2.4.2 40 CFR 63 Subpart HHH – Natural Gas Transmission and Storage Facilities

This MACT subpart applies to facilities which are major sources of HAP that transport or store natural gas prior to entering the transmission pipeline to end users as defined by 40 CFR

§63.1271. Specifically, each dehydration unit at these facilities is subject to this subpart. The Copley Run Station stores and transmits natural gas and operates two dehydration units. Therefore, the requirements of this subpart potentially apply to the Copley Run Station.

However, 40 CFR 63.1274(d)(2) exempts all glycol dehydration units from the control requirements, monitoring requirements, and recordkeeping and reporting requirements of the subpart if benzene emissions from the dehydration unit process vents are less than 0.90 Mg/yr (or 1.0 tpy). The dehydration units at the Copley Run Station each maintain controlled benzene emissions below this threshold, with total site-wide benzene emissions limited to 1.34 tpy in the current Title V permit. The referenced controls and associated benzene limit were in place and operational prior to the NESHAP Subpart HHH compliance date of June 17, 2002. In order to make the operation of the dehydration unit control equipment and associated emission limits clearly and practically enforceable on a going forward basis, Equitrans requests specific federally-enforceable requirements to operate and monitor the associated controls and maintain benzene emissions from each individual dehydration unit below the 0.90 Mg/yr (1.0 tpy) exemption threshold. This will ensure that the facility will have clear and enforceable requirements to maintain emissions below levels subject to the requirements of this NESHAP.

2.4.3 40 CFR 63 Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines

This NESHAP applies to stationary reciprocating combustion engines (RICE) at major and minor sources. The Copley Run Station is a minor source of HAP. The compressor engines at the Copley Run Station were installed 1981 and have not been reconstructed or modified. The units are classified as 2-stroke, lean-burn, non-emergency units with ratings ranging between 1350 and 2250 hp each. As such, they are subject to the requirements for existing, 2-stroke, lean-burn, non-emergency, spark ignition (SI) units at major sources. The generators were installed in 1987 and 1993, rated for 865 hp and are classified as a 4-stroke, rich burn, non-emergency unit. As such, the generators are subject to the requirements for existing, non-emergency, SI units greater than 500 horsepower at major sources. Per 40 CFR §63.6625(h), Equitrans will minimize the engines' time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. Equitrans will also comply with the work practice standards in 40 CFR §63.6603 and maintain records to show these standards have been met. Work practice standards include changing the oil and filter, inspecting spark plugs and replacing as necessary and inspecting all hoses and belts and replacing as necessary at intervals specified in the regulation.

2.4.4 40 CFR 63 Subpart DDDDD – Industrial, Commercial, and Institutional Boilers and Process Heaters

This MACT standard applies to industrial, commercial, and institutional boilers and process heaters of various sizes and fuel types. The dehydration unit reboilers and the indirect heater associated with Dehy #2 meet the definition of affected units under this subpart. However, these sources are existing small units (less than 10 MMBtu/hr) that burn only gaseous fuel. As such, they are not subject to any requirements under this NESHAP. Units used for comfort heat or space heat, as well as hot water heaters, are specifically exempt from this subpart.

Therefore, no sources at the Copley Run Station are subject to any requirements under 40 CFR 63 Subpart DDDDD.

2.5 Compliance Assurance Monitoring

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emissions units with the initial or renewal Title V operating permit application. CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits for sources that utilize active control devices where existing Title V permit requirements may not be considered sufficient.

Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V operating permit program. Because CAM has not been triggered through prior permitting of the facility, CAM is subject for review during this Title V permit renewal. Accordingly, for a subject unit whose pre-controlled emissions are more than the corresponding Title V major source threshold and is not otherwise exempt, a CAM plan must be submitted with this renewal application.

Equitrans has included a detailed discussion of CAM applicability in Section 4.

2.6 Risk Management Plan Regulations

Subpart B of 40 CFR 68 outlines requirements for risk management prevention plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at a facility. Equitrans has evaluated the amount of Section 112(r) substances stored at the Copley Run Station and have determined that there are no listed substances stored at quantities greater than the corresponding threshold.

2.7 Stratospheric Ozone Protection Regulations

The requirements originating from Title VI of the Clean Air Act, entitled *Protection of Stratospheric Ozone,* are contained in 40 CFR 82. Subparts A through E and Subparts G and H of 40 CFR Part 82 are not applicable to the Copley Run Station. 40 CFR 82 Subpart F, *Recycling and Emissions Reduction,* potentially applies if the facility operates, maintains, repairs, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally requires person completing all repairs, service, or disposal to be properly certified. Certified technician complete all repairs, service, and disposal of any ozone depleting substances at the Copley Run Station.

2.8 West Virginia SIP Regulations

The Copley Run Station is currently permitted under the regulations contained in West Virginia's Title 45 Legislative Rule Department of Environmental Protection Office of Air Quality (WVDEP regulations). A federal operating permit must be issued by the agency upon determination that the

facility can reasonably be expected to comply with the WVDEP regulations and all applicable federal requirements. This section of the application highlights applicability of specific West Virginia State Implementation Plan (SIP) regulations that may apply to the Copley Run Station. The following information has been retrieved directly from the WDEP Fact Sheet (R30-04100009-2007) and verified through review of the associated regulations.

2.8.1 45 CSR 2: To Prevent and Control Particulate Air Pollution From Combustion of Fuel in Indirect Heat Exchangers

According to 45 CSR 2-3:

No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

Compliance with this requirement shall be determined in keeping with 40 CFR Part 60, Appendix A, Method 9 or by using approved measurements from continuous opacity monitoring systems.

In addition, according to 45 CSR 2-4:

No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined [according to fuel burning unit type].

As stated in the R30-04100009-2007 Fact Sheet, visible emissions are not expected since only natural gas is combusted in the applicable units, and emissions from sources that burn natural gas have low variability. Therefore, monthly visual emissions checks and recordkeeping will be adequate to demonstrate compliance. In addition, since the combustion units have maximum design heat inputs less than 10 MMBtu/hr, the units are exempted from the requirements of sections 3 through 8 as specified in Section 10.01 of the SIP version of 45 C.S.R. 2.

2.8.2 45 CSR 4: To Prevent and Control the Discharge of Air Pollutants into the Air Which Causes or Contributes to an Objectionable Odor

According to 45 CSR 4-3:

No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.

As stated in the R30-04100009-2007 Fact Sheet, the Copley Run Station is subject to this requirement. In accordance with their Title V permit, the Copley Run Station will maintain appropriate records and take appropriate response measures of all odor complaints.

2.8.3 45 CSR 6: To Prevent and Control Air Pollution from Combustion of Refuse (For Dehy Flare)

According to regulations:

No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by use of the following formula:

Emissions (lb/hr) = F x Incinerator Capacity (tons/hr)

Where, the factor, F, is as indicated below:

Incinerator Capacity	Factor F
A. Less than 15,000 lbs/hr	5.43
B. 15,000 lbs/hr or greater	2.72

The Dehy Flare is applicable to this regulation because of the use of a flare. However, as stated in the R30-04100009-2007 Fact Sheet, the Dehy Flare is exempted from 45 C.S.R. 6-4.2 because it is an industrial incinerator, which allows the Dehy Flare to operate in evening hours, and from section 4.7 because it does not incinerate hazardous materials. In addition, 45 C.S.R. 6-4.5 is not applicable because natural gas incinerators do not emit unburned particles or ash.

2.8.4 45 C.S.R. 6-4.1 and 4.3: To Prevent and Control Air Pollution from Combustion of Refuse (For Dehy Flare)

As stated in the R30-04100009-2007 Fact Sheet , calculations of particulate matter emissions using AP-42 factors for Natural Gas Combustion (Section 1.4-2) indicate that emissions from the flare are only a small fraction (<10%) of the mass limit established by 45 C.S.R. 6. As a result, visual emissions performance tests may be used to demonstrate compliance with 45 C.S.R. 6 requirements and shall be sufficient for compliance certification purposes.

2.8.5 45 CSR 10: To Prevent and Control Air Pollution from the Emission of Sulfur Oxides

According 45 CSR 10-3:

No person shall cause, suffer, allow or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess...of the product of 3.2 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour.

As stated by the R30-04100009-2007 Fact Sheet, WVDEP has determined that 45 CSR 10 is not applicable to the compressor engines at the Copley Run Station. This means that the engines are not subject to the the sulfur dioxide (SO_2) weight emission standards for fuel burning units and the associated permits and testing, monitoring, recordkeeping, and reporting

requirements. Other emission units at the facility are not subject to 45 CSR 10 Section 3 because they do not produce heat or power by indirect heat transfer and are not, by definition, "fuel burning units".

2.8.6 45 CSR 11: Prevention of Air Pollution Emergency Episodes

According to 45 CSR 11-5.1:

Any person responsible for the operation of a source of air pollutants emitting 100 tons per year or more in a region classified Priority I or II for any pollutant, shall prepare standby plans for reducing the emission of air pollutants during periods of an Air Pollution Alert, Air Pollution Warning, and Air Pollution Emergency.

As stated in the R30-04100009-2007 Fact Sheet, the Copley Run Station is subject to this rule. The Copley Run Station is located in West Virginia Air Quality Control Region 8 (USEPA AQCR 232). This region is classified as Priority III for all pollutants according to Table A of 45 CSR 11. However, according 45 CSR 11-5.2, the West Virginia Air Pollution Control Commission can require a facility which is not subject to 45 CSR 11-5.1 to develop a standby plan. As such, the Copley Run Station is not subject to 45 CSR 11 until such a time when the Commission requests a standby plan.

2.8.7 45 CSR 13: Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation

According to 45 CSR 13-5:

No person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without notifying the Secretary of such intent and obtaining a permit to construct, modify, relocate and operate the stationary source as required in this rule or any other applicable rule promulgated by the Secretary.

As stated in the R30-04100009-2007 Fact Sheet, the provisions for construction permits under 45 CSR 13 apply to the Copley Run Station. In the event that Equitrans would propose the construction of an additional unit at the Copley Run Station, the proper Rule 13 (R13) operating permit application procedures would be followed. The existing units at the Copley Run Station were installed prior to the promulgation of this requirement. As such, the Copley Run Station does not currently have any permits under this requirement.

2.8.8 45 CSR 30: Requirements for Operating Permits

According to 45 CSR 30-3:

On and after the effective date of the operating program, no person shall violate any requirement of a permit issued under this rule nor shall any person operate any of the following sources, except in compliance with a permit issued under this rule.

As stated in the R30-04100009-2007 Fact Sheet, the Copley Run Station is subject to the requirement for an operating permit. The station's Title V permit (R30-04100009-2007) was issued under this rule and this renewal application satisfies the application requirements of 45 CSR 30. Also under this rule, the Copley Run Station is subject to operating under the requirements set forth in the issued Title V permit.

2.8.9 Non-Applicability of Other SIP Rules

A thorough examination of the West Virginia SIP rule applicability to the Copley Run Station reveals many SIP regulations that do not apply or impose additional requirements on operations. Such SIP rules include those specific to a particular type of industrial operation that is categorically not applicable to the Copley Run Station.

This section of the application provides a detailed discussion of CAM applicability for the Copley Run Station.

3.1 CAM RULE SUMMARY

CAM applies to any unit with pre-controlled emissions greater that the Title V major source threshold level that utilizes a control device to comply with a federally-enforceable requirement (e.g. emission limits). Its intent is "to provide reasonable assurance of compliance with applicable requirements under the Clean Air Act for emissions units that rely on pollution control devices to achieve compliance."[2] The CAM rule requires owners and operators to maintain their control devices at levels that assure compliance, to design CAM plans around current requirements and operating practices, and to select representative parameters upon which compliance can be assured. The CAM plan establishes indicator ranges or procedures for setting indicator ranges, uses performance testing and other information to verify parameters and ranges, and seeks to correct control device performance problems as expeditiously as possible.

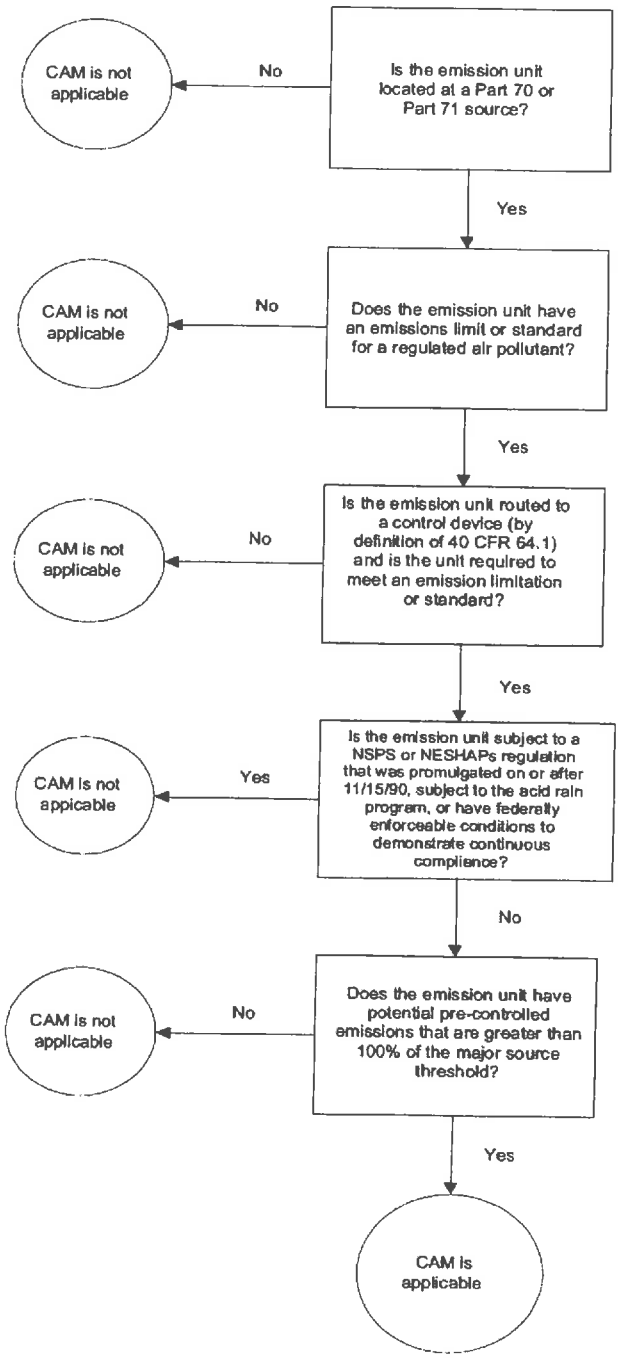
CAM potentially applies to every pollutant-specific emissions unit (PSEU) that is located at a major source where a 40 CFR Part 70 or 71 permit is required. The PSEU must be subject to an emission limitation or standard and use a control device to achieve compliance with an emission limitation or standard. A PSEU that is applicable to CAM shall have pre-control potential emissions that are equal to or greater than 100 percent of the Title V major source threshold. Figure 1 represents the steps to assess CAM applicability.

The CAM rule also contains several exemptions. Units that are subject to a NSPS or NESHAP regulation that was promulgated after November 15, 1990 are exempt from CAM. Units that have emissions limitations or standards for which a Title V permit specifies a continuous compliance determination method are also exempt. The two dehydration units at the Copley Run Station are not subject to CAM because they meet one or more of these exemptions.

In specifying submittal deadlines for PSEU CAM plans, the CAM rule distinguishes between large emissions units and other units applicable to CAM requirements. Large units are defined as those with ***post-control*** potential emissions that are greater than the Title V major source threshold. Small units are defined as those with ***pre-control*** potential emissions greater than the Title V major source threshold and post-control potential emissions less than the Title V major source threshold.

As detailed below, Equitrans has determined that there no emission units subject to CAM requirements at the Copley Run station and seeks WVDEP concurrence through review of this application and subsequent issuance of a renewed Title V permit.

FIGURE 1. CAM APPLICABILITY FLOWCHART



3.2 CAM APPLICABILITY

This section provides the CAM applicability assessment specific to the Copley Run Station dehydration units. There are only two emission units that warrant discussion with respect to potential CAM applicability; Dehy #1 and Dehy #2. All other emission units at this facility are clearly not subject to CAM requirements because they do not have control devices associated with their operation.

3.2.1 DEHY #1

In assessing CAM applicability, Dehy #1 has federally-enforceable emission limits associated with its operation. CAM applies to units that use control devices in order to comply with applicable standards for a regulated pollutant under Title V. Since the flare associated with Dehy #1 meets the definition of a control device per 40 CFR 64.1, this unit is potentially CAM applicable. The last variable to assess is whether the emission unit has potential pre-controlled emissions that are greater than the Title V major source threshold. Potential pre-controlled emissions from Dehy #1 do not exceed major source thresholds.

Furthermore, Dehy #1 is subject to NESHAP Subpart HHH regulations, which specifically exempt this unit from CAM according to 40 CFR 64.2(b)(1)(i). As such, CAM is not applicable to this emission unit and no CAM plan is required.

3.2.2 DEHY #2

In assessing CAM applicability, Dehy #2 has federally-enforceable emission limits associated with its operation. However, CAM only applies to units that use control devices in order to comply with applicable standards for a regulated pollutant under Title V. Dehy #2 is configured such that exhaust gases from the reboiler are reintroduced into the reboiler system for the primary purpose of providing fuel for the reboiler, with a secondary benefit being the coincidental combustion and destruction of VOC/HAP. The reboiler exhaust gas recirculation system is operated such that the vapor must be routed to the reboiler, and is not equipped with any bypass vents. As such, the reboiler operation associated with Dehy #2 meets the definition of inherent process equipment per 40 CFR 64.1, and is therefore not considered a control device under CAM. In addition, like Dehy #1 discussed above, Dehy #2 is subject to NESHAP Subpart HHH regulations, which specifically exempts this unit from CAM according to 40 CFR 64.2(b)(1)(i). Therefore, Dehy #2 is not subject to CAM and no CAM plan is required to be submitted for this emission unit.

This section of the application provides a discussion of emission calculation methodology used for the emission sources at the Copley Run Station.

4.1 DEHYDRATION UNITS

Emissions from the two Copley Run Station dehydration units were determined using GRI-GLYCalc Version 4.0 software. Potential pre-control and post-control emissions were estimated based on the most recent representative extended gas analysis data, and by applying a 10% compliance margin to account for potential variability in gas composition. The flare associated with Dehy #1 was estimated to have a VOC/HAP control efficiency of 98%, and the reboiler exhaust recirculation system associated with Dehy #2 was estimated to have a VOC/HAP control efficiency of 95%.

4.2 COMBUSTION SOURCES

For the combustion sources (compressors, generators, hot water heater, and heating boiler) appropriate AP-42 emission factors were chosen and were then multiplied by heat input (MMBtu/hr) in order to determine the tpy and lb/hr emissions of CO, PM, PM_{10}, $PM_{2.5}$, NO_x, SO_2, VOC, and HAPs.

As an example, PM_{10} emissions for Compressor Engine Number 5 (C-005):

Fuel Usage = 9.18 Mscf/hr
Fuel Heating Value = 1080 Btu/scf
Permitted Hours per year = 7709 hours

Heat Input = Fuel Usage * Fuel Heating Value * 1000 Mscf / 1000000 MMBtu = 9.914 MMBtu/hr

AP-42 Table 3.2-1 Uncontrolled Emission Factor for 2-stroke Lean-Burn Engines for PM_{10} (filterable plus condensable) = 0.04831 lb/MMBtu

Emissions = Heat Input * Emission Factor * Permitted Hours * 1 ton/2000 lbs = 1.846 tpy

4.3 STORAGE TANKS

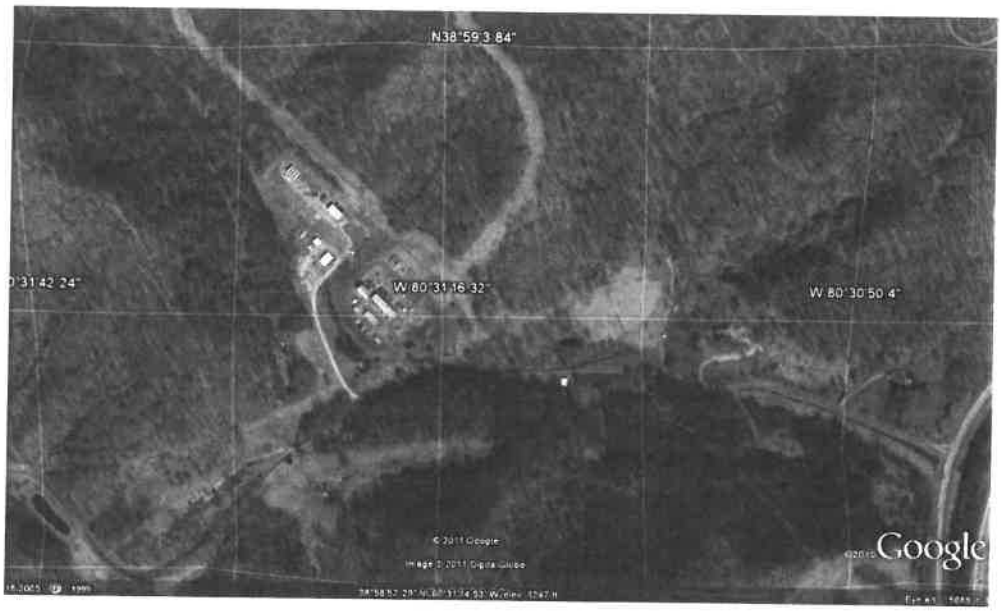
Emissions from the six storage tanks at the Copley Run Station were estimated using EPA's TANKS4.09 software, along with physical parameters of the storage tanks, and physical properties, storage temperatures, and throughput volumes of the materials stored in each tank.

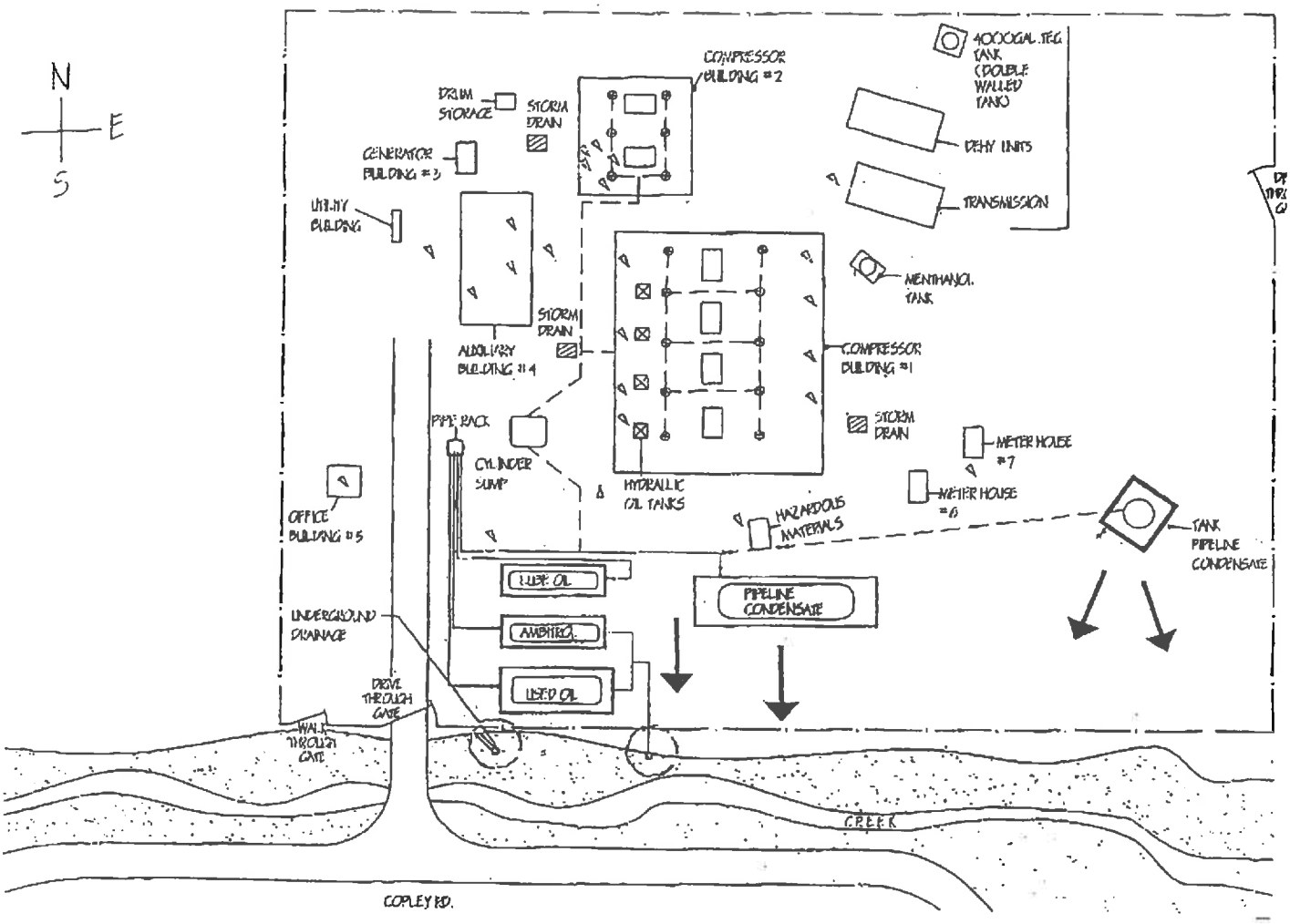
5. WVDEP APPLICATION FORMS

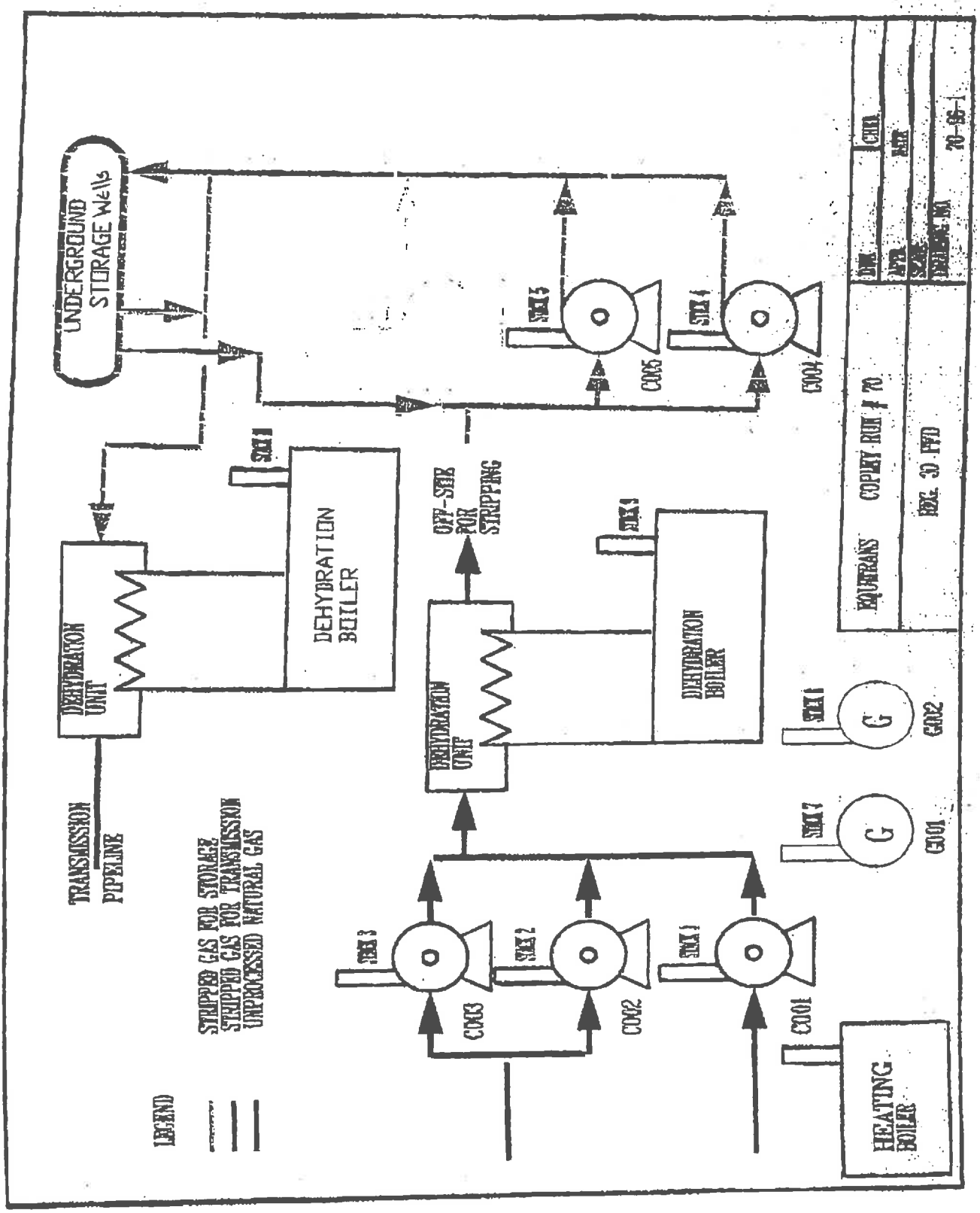
The WVDEP permit application forms contained in this renewal application include facility-wide and emission source specific forms for the renewal of the Copley Run Station Title V permit. The completed Title V permit forms are included in this section.

Copley Run Station

AREA MAP




N
E
S
DRUM STORAGE
STORM DRAIN
COMPRESSOR BUILDING #2
400 BBL. FIBERGLASS TANK (DOUBLE WALLED TANK)
DEHY UNITS
TRANSMISSION
GENERATOR BUILDING #3
UTILITY BUILDING
MENTHANOL TANK
STORM DRAIN
ADDITIVE BUILDING #4
COMPRESSOR BUILDING #1
PIPE RACK
CYLINDER SUMP
HYDRAULIC OIL TANKS
STORM DRAIN
METER HOUSE #7
METER HOUSE #6
OFFICE BUILDING #5
HAZARDOUS MATERIALS
TANK PIPELINE CONDENSATE
USED OIL
PIPELINE CONDENSATE
UNDERGROUND DRAINAGE
AMBITROL
USED OIL
DRIVE THROUGH GATE
WALK THROUGH GATE
CREEK
COPLEY RD.


UNDERGROUND STORAGE WELLS
DEHYDRATION UNIT
DEHYDRATION BOILER
OFF-SITE FOR STRIPPING
DEHYDRATION UNIT
DEHYDRATION BOILER
TRANSMISSION PIPELINE
STRIPPED GAS FOR STORAGE
STRIPPED GAS FOR TRANSMISSION
UNPROCESSED NATURAL GAS
LEGEND
C005
C004
C003
C002
C001
HEATING BOILER
EQUIPMENT COPLEY RUN # 70
BLDG. 30 PFD

APPENDIX D – WVDEP TITLE V EQUIPMENT TABLE

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity	Year Installed/ Modified
C-001	N / A	001-01	Reciprocating Engine/Integral Compressor; Cooper Bessemer Model GMVH10; Serial #48769	2250 HP	1981
C-002	N / A	001-02	Reciprocating Engine/Integral Compressor; Cooper Bessemer Model GMVH6; Serial #48772	1350 HP	1981
C-003	N / A	001-03	Reciprocating Engine/Internal Compressor; Cooper Bessemer Model GMVH; Serial #48772	1350 HP	1981
C-004	N / A	001-04	Reciprocating Engine/Internal Compressor; Cooper Bessemer Model GMVH8; Serial #48770	1800 HP	1980
C-005	N / A	001-05	Reciprocating Engine/Internal Compressor; Cooper Bessemer Model GMVHR; Serial #49126	1350 HP	1993
G - 001	N / A	G - 001	Natural Gas Fired Electric Generator; International Harvester Model V549; Serial #174686	2.2 MMBtu/hr	1987
G - 002	N / A	G - 002	Natural Gas Fired Electric Generator; Cummins Model GTA12; Serial #25183763	2.2 MMBtu/hr	1993
003-01	N/A	003-01	Natural Gas Fired Heating Boiler; Ajax Model WG-675 D; Serial # 81-33656	0.675 MMBtu/hr	1981
003-02	N / A	003-02	Natural Gas Fired Hot Water Heater; WL Jackson Mfg. Co. Model G 030 05; Serial # 66552-1080	0.03 MMBtu/hr	1987
Dehy Flare	004-01	004-01	Triethylene Glycol dehydration unit; Natco Model 5 GR-3000-TX10; consists of a flare and a natural gas fired reboiler (Dehy Boiler #1)	0.65 MMBtu/hr	1992
Dehy	N / A	004-02	Triethylene Glycol unit; Natco Model GS 3100E; consists of a natural gas fired reboiler (Dehy Boiler #2) and an indirect heater.	1.67 MMBtu/hr and 1.2 MMBtu/hr	1996
Copley 1	N / A	Copley 1	Triethylene Glycol horizontal fixed roof storage tank	4000 gallon	1996
Copley 2	N / A	Copley 2	Pipeline Condensate horizontal fixed roof storage tank	20000 gallon	1992
Copley 3	N / A	Copley 3	Crude Oil horizontal fixed roof storage tank	2000 gallon	1992
Copley 4	N / A	Copley 4	Methanol horizontal fixed roof storage tank	2000 gallon	1992
Copley 5	N / A	Copley 5	Used Oil horizontal fixed roof storage tank	7500 gallon	1992
Copley 6	N / A	Copley 6	Ambitrol horizontal fixed roof storage tank	3000 gallon	1992

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	Emission unit name:	List any control devices associated with this emission unit:
003-01	003-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ an Ajax Model WG-75 D natural gas fired heating boiler. The design capacity of the unit is 0.675 MMBtu/hr.

Manufacturer:	Model number:	Serial number:
Ajax	WG-75D	81-33656

Construction date:	Installation date:	Modification date(s):
N/A	01/01/1981	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 0.675 MMBtu/hr

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
N/A	N/A	24 hours per day, 7 days per week, 8760 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_ Yes ___ No	If yes, is it? ___ Indirect Fired __X_ Direct Fired
Maximum design heat input and/or maximum horsepower rating: 0.675 MMBtu/hr	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S<1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	5.25E-02	0.2300
Nitrogen Oxides (NO_X)	6.25E-02	0.2738
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	4.75E-03	0.0208
Particulate Matter (PM_{10})	4.75E-03	0.0208
Total Particulate Matter (TSP)	4.75E-03	0.0208
Sulfur Dioxide (SO_2)	3.75E-04	0.0016
Volatile Organic Compounds (VOC)	3.44E-03	0.0151
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	4.69E-05	0.0002
N/A		
N/A		
N/A		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	78	346
N/A		
N/A		

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, emission factors were taken from AP-42 Table 1.4-1 and 1.4-2 (7/98). The fuel consumption for the boiler, 0.675 MMBtu/hr was divided by the source specific higher heating value, 1,080 Btu/scf, to find the maximum fuel consumption in MMscf/hr. The AP-42 emission factors (in lb/MMscf) were multiplied by the engine's fuel usage (in MMscf/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

N/A

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

N/A

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	Emission unit name:	List any control devices associated with this emission unit:
003-02	003-02	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a WL Jackson Mfg. Co. Model G 030 05 natural gas fired hot water heater. The unit has a design capacity of 0.03 MMBtu/hr.

Manufacturer:	Model number:	Serial number:
WL Jackson Mfg. Co.	G 030 05	66552-1080

Construction date:	Installation date:	Modification date(s):
N/A	1987	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 0.03 MMBtu/hr

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
N/A	N/A	24 hours per day, 7 days per week, 52 weeks per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel?	If yes, is it?
_X__Yes ___ No	___ Indirect Fired __X_Direct Fired

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
0.03 MMBtu/hr	N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	2.33E-03	0.0102
Nitrogen Oxides (NO_X)	2.78E-03	0.0122
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	2.11E-04	0.0009
Particulate Matter (PM_{10})	2.11E-04	0.0009
Total Particulate Matter (TSP)	2.11E-04	0.0009
Sulfur Dioxide (SO_2)	1.67E-05	0.0001
Volatile Organic Compounds (VOC)	1.53E-04	0.0007
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	2.08E-06	0.0000
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO2e)	3.5	15.4

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (External Combustion Sources – Natural Gas Combustion, dated 7/1998). The fuel consumption for the boiler, 0.03 MMBtu/hr was divided by the source specific higher heating value, 1,080 Btu/scf, to find the maximum fuel consumption in MMscf/hr. The AP-42 emission factors (in lb/MMscf) were multiplied by the engine's fuel usage (in MMscf/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

N/A

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

N/A

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
004-01	004-01	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Triethylene glycol dehydration unit (storage dehy unit), Natco Model 5 GR-3000-TX10, with design capacity of 46 MMscfd of gas throughput. Consists of a flare and a natural gas fired reboiler (Dehy Boiler #1).

Manufacturer:	**Model number:**	**Serial number:**
Natco	3000-TX10	N/A

Construction date:	**Installation date:**	**Modification date(s):**
1992	1992	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 0.65 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	46 MMscfd	24 hours per day, 7 days per week, 52 weeks per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? __X_Yes ___ No	**If yes, is it?** ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 0.65 MMBtu/hr	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions

	PPH	TPY
Carbon Monoxide (CO)	0.10	0.43
Nitrogen Oxides (NO_X)	0.12	0.51
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.01	0.04
Particulate Matter (PM_{10})	0.01	0.04
Total Particulate Matter (TSP)	0.01	0.04
Sulfur Dioxide (SO_2)	0.001	0.003
Volatile Organic Compounds (VOC)	1.39	0.12
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.03	0.14
Ethylbenzene	0.02	0.09
Toluene	0.03	0.12
Xylenes	0.03	0.12
n-Hexane	0.02	0.12
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	243	1,063

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions for the reboiler and for the combustion related emissions from the flare, AP-42 factors were taken from Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (External Combustion Sources – Natural Gas Combustion, dated 7/1998). The fuel consumption for the reboiler, 0.65 MMBtu/hr was divided by the source specific higher heating value, 1,080 Btu/scf, to find the maximum fuel consumption in MMscf/hr. The AP-42 emission factors (in lb/MMscf) were multiplied by the engine's fuel usage (in MMscf/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton. Emissions from the dehy unit regenerator and associated flash tank were estimated using GRI-GLYCalc 4.0 and a flare control efficiency of 98%.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Title V Permit Condition 6.1.5.
The facility shall employ one NATCO triethylene glycol dehydration unit identified as 004-01 (referred to as Dehy #1). The operation of this unit shall not exceed the following operating and emission limitations:

a. The throughput of wet natural gas through the glycol dehydration unit/still column shall not exceed 46 MMscf/day;
b. The reboiler shall have a maximum design heat input of 1.5 MMBtu/hr and be limited to fuel with natural gas;
c. The vapors/overheads from the still column and flash tank shall be routed through a closed-vent system to the flare (Dehy Flare) at all times when there is a potential that vapors (emissions) can be generated from the still column and/or flash tank;
d. The flare identified as Dehy Flare shall be steam-assisted, or non-assisted;
e. The Dehy Flare shall be operated at all times when emissions may be vented to it;
f. The Dehy Flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2consecutive hours;
g. The Dehy Flare shall be operated with a flame present at all times;
h. Flares shall be used only with the net heating value of a gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. (See permit for equation).
i. Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided by Sections 6.1.5.j. and 6.1.5.k. of this permit. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), by the unobstructed (free) cross-sectional area of the flare tip, which may be determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60, as appropriate, but is not required to be determined using these Methods (unless designated by the Director);
j. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in Section 6.1.5.i. of this permit, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf); and
k. Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in Section 6.1.5.i. of this permit, less than the velocity Vmax, as determined by the method specified in this paragraph, and less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, Vmax, for flares complying with this paragraph shall be determined by the following equation: Log(Vmax)=(HT+28.8)/31.7
l. Emissions from the Dehy Flare shall not exceed the maximum hourly and annual emission limits set forth in Table 6.1.5.1. (i.e., Oxides of Nitrogen 0.1 lb/hr, 0.4 TPY; Carbon Monoxide 0.3 lb/hr, 1.3 TPY; VOC 1.6 lb/hr, 7.2 TPY; Benzene 0.1 lb/hr, 0.3 TPY; Total HAPs (includes benzene) 0.7 lb/hr, 3.0 TPY.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Title V Permit Condition 6.2 Monitoring Requirements
Title V Permit Condition 6.3 Testing Requirements
Title V Permit Condition 6.4 Recordkeeping Requirements
Title V Permit Condition 6.5 Reporting Requirements

Are you in compliance with all applicable requirements for this emission unit? __X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
004-02	Dehy	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Triethylene glycol dehydration unit (transmission dehy), Natco Model GS 3100E. Consists of a natural gas fired reboiler (Dehy Boiler #2) and an indirect heater. Emissions from the TEG regenerator vent are recirculated to the reboiler.

Manufacturer:	**Model number:**	**Serial number:**
Natco	GS 3100E	N/A
Construction date:	**Installation date:**	**Modification date(s):**
1992	1992	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1.67 MMBtu/hr (reboiler) and 1.2 MMBtu/hr (indirect heater).

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	140 MMscfd gas throughput	24 hours per day, 7 days per week, 52 weeks per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X_Yes ___ No	**If yes, is it?** ___ Indirect Fired _X_Direct Fired
Maximum design heat input and/or maximum horsepower rating: 1.67 MMBtu/hr and 1.2 MMBtu/hr	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.22	0.98
Nitrogen Oxides (NO_X)	0.27	1.16
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.02	0.09
Particulate Matter (PM_{10})	0.02	0.09
Total Particulate Matter (TSP)	0.02	0.09
Sulfur Dioxide (SO_2)	0.002	0.01
Volatile Organic Compounds (VOC)	0.89	3.90
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Benzene	0.02	0.09
Ethylbenzene	0.02	0.06
Toluene	0.02	0.07
Xylenes	0.02	0.09
n-Hexane	0.01	0.05
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	374	1,636

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (External Combustion Sources – Natural Gas Combustion, dated 7/1998). The fuel consumption for the indirect heating unit and the reboiler, 1.67 MMBtu/hr and 1.2 MMBtu/hr was divided by the source specific higher heating value, 1,080 Btu/scf, to find the maximum fuel consumption in MMscf/hr. The AP-42 emission factors (in lb/MMscf) were multiplied by the engine's fuel usage (in MMscf/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton. Emissions from the TEG dehydration unit regenerator and associated flash tank were estimated using GRI-GLYCalc 4.0 at the maximum throughput of 140 MMscfd, and assuming 95% control of emissions from recirculation to the reboiler for combustion.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Title V Permit Condition 6.1.6
The facility shall employ one NATCO, model GS 3100E dehydration unit identified as 004-02 (referred as Dehy #2). The operation of this unit shall not exceed the following operating and emission limitations:

a. The throughput of wet natural gas through the glycol dehydration unit/still column shall not exceed 140 MMscf/day;
b. The vapors/overheads from the still column and flash tank shall be routed through a closed-vent system to the reboiler at all times when there is a potential that vapors (emissions) can be generated from the still column and/or flash tank;
c. The reboiler shall be operated at all times when there is a potential of vapors (emissions) to be generated from the flash tank and/or still column.
d. The reboiler shall only be fired with vapors from the still column and flash tank, and natural gas may be used a supplemental fuel;
e. The 1.2 MMBtu/hr indirect heater shall only be fired with natural gas;
f. The vapors/overheads from the still column and flash tank shall be introduced into the flame zone of the reboiler.
g. Emissions from the reboiler shall not exceed the maximum hourly and annual emission limits set forth in Table 6.1.6.g. (i.e., Reboiler Emission Limits: Oxides of Nitrogen 0.28 lb/hr, 1.2 TPY; Carbon Monoxide 0.14 lb/hr, 0.6 TPY; VOC 3.4 lb/hr, 15.1 TPY; Benzene 0.11 lb/hr, 0.5 TPY; Total HAPs (includes benzene) 1.8 lb/hr, 9.1 TPY.
h. The reboiler and indirect heater, on an individual basis, shall not exhibit visible emissions into the open air greater than ten (10) percent opacity based on a six-minute block average. Continuous compliance with this requirement is met by complying with fuel restrictions in Sections 6.1.6.d. and 6.1.6.e. of this permit.

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Title V Permit Condition 6.2 Monitoring Requirements
Title V Permit Condition 6.3 Testing Requirements
Title V Permit Condition 6.4 Recordkeeping Requirements
Title V Permit Condition 6.5 Reporting Requirements

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F.**

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
C-001	C-001	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor, identified as C-001.

Manufacturer:	**Model number:**	**Serial number:**
Cooper-Bessemer	GMVH10	48769
Construction date:	**Installation date:**	**Modification date(s):**
1981	1981	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,250 HP

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
15.3 Mscf/hr	117.9 MMscf/yr	8,760 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X__Yes ___ No	**If yes, is it?** ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 2,250 HP	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	6.38	27.94
Nitrogen Oxides (NO_X)	52.38	229.43
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.63	2.78
Particulate Matter (PM_{10})	0.63	2.78
Total Particulate Matter (TSP)	0.63	2.78
Sulfur Dioxide (SO_2)	0.01	0.04
Volatile Organic Compounds (VOC)	1.98	8.69
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.91	4.00
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	1933	8468

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 15,300 Btu/hp-hr, was multiplied by the engine rating, 2,250 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 4,320 hours of operation or annually, whichever comes first; inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
C-001	C-001	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor, identified as C-001.

Manufacturer:	**Model number:**	**Serial number:**
Cooper-Bessemer	GMVH10	48769
Construction date:	**Installation date:**	**Modification date(s):**
1981	1981	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2,250 HP

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
15.3 Mscf/hr	117.9 MMscf/yr	8,760 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X__Yes ___ No	**If yes, is it?** ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 2,250 HP	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	6.38	27.94
Nitrogen Oxides (NO_X)	52.38	229.43
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.63	2.78
Particulate Matter (PM_{10})	0.63	2.78
Total Particulate Matter (TSP)	0.63	2.78
Sulfur Dioxide (SO_2)	0.01	0.04
Volatile Organic Compounds (VOC)	1.98	8.69
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.91	4.00
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	1933	8468

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 15,300 Btu/hp-hr, was multiplied by the engine rating, 2,250 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 4,320 hours of operation or annually, whichever comes first; inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X_Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
C-002	C-002	None

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor, identified as C-002.

Manufacturer:	**Model number:**	**Serial number:**
Cooper-Bessemer	GMVH6	48771
Construction date:	**Installation date:**	**Modification date(s):**
1981	1981	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1350 HP

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
9.18 Mscf/hr	80.4 MMscsf/hr	8,760 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X__Yes ___ No	**If yes, is it?** ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 1350 HP	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	$H_2S < 1.0$ gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	5.95	26.07
Nitrogen Oxides (NO_X)	5.95	26.07
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.38	1.67
Particulate Matter (PM_{10})	0.38	1.67
Total Particulate Matter (TSP)	0.38	1.67
Sulfur Dioxide (SO_2)	0.01	0.03
Volatile Organic Compounds (VOC)	1.49	6.52
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.55	2.40
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	1160	5081

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, manufacturer's data was used for NOx, CO, and VOC. For all other pollutants, AP-42 factors were taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 9,180 Btu/hp-hr, was multiplied by the engine rating, 1350 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 4,320 hours of operation or annually, whichever comes first; inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	Emission unit name:	List any control devices associated with this emission unit:
C-003	C-003	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor, identified as C-003.

Manufacturer:	Model number:	Serial number:
Cooper-Bessemer	GMVH	48772

Construction date:	Installation date:	Modification date(s):
1981	1981	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1350 HP

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
9.18 Mscf/hr	70.8 MMscf/yr	8,760 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X__Yes ___ No	If yes, is it? ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 1350 HP	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	5.95	26.07
Nitrogen Oxides (NO_X)	5.95	26.07
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.38	1.67
Particulate Matter (PM_{10})	0.38	1.67
Total Particulate Matter (TSP)	0.38	1.67
Sulfur Dioxide (SO_2)	0.01	0.03
Volatile Organic Compounds (VOC)	1.49	6.52
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.55	2.40
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	1160	5081

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, manufacturer's data was used for NOx, CO, and VOC. For all other pollutants, AP-42 factors were taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 9,180 Btu/hp-hr, was multiplied by the engine rating, 1,350 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 4,320 hours of operation or annually, whichever comes first; inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
C-004	C-004	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor, identified as C-004.

Manufacturer:	**Model number:**	**Serial number:**
Cooper-Bessemer	GMVH8	48770
Construction date:	**Installation date:**	**Modification date(s):**
1980	1980	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1800 HP

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
12.24 Mscf/hr	94.4 MMscf/yr	8,760 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? __X_Yes ___ No	**If yes, is it?** ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 1800 HP	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	5.10	22.35
Nitrogen Oxides (NO_X)	41.90	183.54
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.51	2.22
Particulate Matter (PM_{10})	0.51	2.22
Total Particulate Matter (TSP)	0.51	2.22
Sulfur Dioxide (SO_2)	0.01	0.03
Volatile Organic Compounds (VOC)	1.59	6.95
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.73	3.20
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	1547	6774

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 12,240 Btu/hp-hr, was multiplied by the engine rating, 1,800 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 4,320 hours of operation or annually, whichever comes first; inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
C-005	C-005	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cooper-Bessemer GMVR Reciprocating Engine/Integral Compressor, identified as C-005. The engine shall not operate more than 7,709 hours per year and emissions from the engine shall not exceed the maximum hourly and annual emission limits: Oxides of Nitrogen 10.0 lb/hr, 39 TPY; Carbon Monoxide 3.0 lb/hr, 11.6 TPY; VOCs 0.2 lb/hr, 0.77 TPY.

Manufacturer:	**Model number:**	**Serial number:**
Cooper-Bessemer	GMVHR	49126
Construction date:	**Installation date:**	**Modification date(s):**
1981	1981	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 1350 HP

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
9.18 Mscf/hr	70.8 MMscf/yr	7,709 hours per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X__Yes ___ No	**If yes, is it?** ___ Indirect Fired __X_Direct Fired
Maximum design heat input and/or maximum horsepower rating: 1350 HP	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	5.95	22.94
Nitrogen Oxides (NO_X)	5.95	22.94
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	0.38	1.47
Particulate Matter (PM_{10})	0.38	1.47
Total Particulate Matter (TSP)	0.38	1.47
Sulfur Dioxide (SO_2)	0.01	0.02
Volatile Organic Compounds (VOC)	1.49	5.74
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.55	2.41
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	1160	4471

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, manufacturer's data was used for NOx, CO, and VOC. For all other pollutants, AP-42 factors were taken from Chapter 3.2, Table 3.2-1 (Uncontrolled Emission Factors for 2-stroke Lean-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 9,180 Btu/hp-hr, was multiplied by the engine rating, 1,350 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 7,709 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 4,320 hours of operation or annually, whichever comes first; inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
G-001	G-001	N/A

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ an International Harvester natural gas fired electric generator model V549. The unit has a design capacity of 2.2 MMBtu/hr.

Manufacturer:	**Model number:**	**Serial number:**
International Harvester	V549	174686

Construction date:	**Installation date:**	**Modification date(s):**
1987	1987	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2.2 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	24 hours per day, 7 days per week, 52 weeks per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? __X_Yes ___ No	**If yes, is it?** ___ Indirect Fired __X_Direct Fired
Maximum design heat input and/or maximum horsepower rating: 2.2 MMBtu/hr	**Type and Btu/hr rating of burners:** N/A

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	8.18	35.85
Nitrogen Oxides (NO_X)	4.99	21.87
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	4.27E-02	0.1870
Particulate Matter (PM_{10})	4.27E-02	0.1870
Total Particulate Matter (TSP)	4.27E-02	0.1870
Sulfur Dioxide (SO_2)	1.29E-03	0.0057
Volatile Organic Compounds (VOC)	6.51E-02	0.2852
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	4.51E-02	0.1975
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	257	1127

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 3.2, Table 3.2-3 (Uncontrolled Emission Factors for 4-stroke Rich-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 2,545 Btu/hp-hr, was multiplied by the engine rating, 865 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 1,440 hours of operation or annually, whichever comes first; inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
G-002	Natural Gas Fired Electric Generator	None

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
The facility shall employ a Cummins Model GTA12 natural gas fired electric generator. The unit has a design capacity of 2.2 MMBtu/hr.

Manufacturer:	**Model number:**	**Serial number:**
Cummins	GTA12	25183763

Construction date:	**Installation date:**	**Modification date(s):**
1993	1993	N/A

Design Capacity (examples: furnaces - tons/hr, tanks - gallons): 2.2 MMBtu/hr

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	24 hours per day, 7 days per week, 52 weeks per year

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? _X__Yes ___ No	**If yes, is it?** ___ Indirect Fired _X__Direct Fired
Maximum design heat input and/or maximum horsepower rating: 2.2 MMBtu/hr	**Type and Btu/hr rating of burners:** NA

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.
Natural Gas

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Natural Gas	H_2S < 1.0 gr/100 scf		1080 BTU/scf

Emissions Data

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	8.18	35.85
Nitrogen Oxides (NO_X)	4.99	21.87
Lead (Pb)	N/A	N/A
Particulate Matter ($PM_{2.5}$)	4.27E-02	0.1870
Particulate Matter (PM_{10})	4.27E-02	0.1870
Total Particulate Matter (TSP)	4.27E-02	0.1870
Sulfur Dioxide (SO_2)	1.29E-03	0.0057
Volatile Organic Compounds (VOC)	6.51E-02	0.2852
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	4.51E-02	0.1975
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
Carbon Dioxide Equivalent (CO_2e)	257	1127

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

To calculate potential emissions, AP-42 factors were taken from Chapter 3.2, Table 3.2-3 (Uncontrolled Emission Factors for 4-stroke Rich-Burn Engines, dated 7/2000). The specific fuel consumption for the engine, 2,545 Btu/hp-hr, was multiplied by the engine rating, 865 hp, and then divided by 1,000,000 Btu per MMBtu to convert to units of MMBtu/hr. The AP-42 emission factors (in lb/MMBtu) were multiplied by the engine's fuel usage (in MMBtu/hr as previously calculated) to get potential emissions in pounds per hour. To determine tons per year, the pounds per hour value was multiplied by 8,760 hours per year and divided by 2,000 lbs per ton.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

RICE MACT: 40 CFR 63 Subpart ZZZZ

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

RICE MACT: Permittee will minimize the engine's time spent at idle and minimize the engines' startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes (40CFR§63.6625(h)). Permittee will comply with applicable work practice standards: change oil and filter every 1,440 hours of operation or annually, whichever comes first; inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first and replace as necessary (40CFR§6603 and Table 2d to Subpart ZZZZ of 40CFR63). Permittee will also operate and maintain the engine in accordance with manufacturer's suggestions and maintain records showing that all work practices have been met (40 CFR63).

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Draft
EQT - Copley Run Station
Facility-Wide Emissions Summary

Process/Facility	Potential Emissions (lb/hr)					
	NOx	CO	VOC	SO_2	PM[1]	HAPs
Compressor Engine #1 (C-001)	52.38	6.38	1.98	0.01	0.80	1.32
Compressor Engine #2 (C-002)	5.95	5.95	1.49	0.01	0.48	0.79
Compressor Engine #3 (C-003)	5.95	5.95	1.49	0.01	0.48	0.79
Compressor Engine #4 (C-004)	41.90	5.10	1.59	0.01	0.64	1.05
Compressor Engine #5 (C-005)	5.95	5.95	1.49	0.01	0.48	0.79
#1 Dehy Reboiler (004-01)	0.06	0.05	0.00	0.00	0.00	0.00
#1 TEG Dehydrator & Flash Tank Routed to Flare (004-01)	0.06	0.05	1.39	0.00	0.00	0.39
#2 Dehy Reboiler (004-02)	0.15	0.13	0.01	0.00	0.01	0.00
#2 TEG Dehydrator & Flash Tank Recirculated to Reboiler (004-02)	-	-	0.88	-	-	0.09
#2 Dehy Indirect Heater (004-02)	0.11	0.09	0.01	0.00	0.01	0.00
Generator #1 (G-001)	4.99	8.18	0.07	0.00	0.04	0.06
Generator #2 (G-002)	4.99	8.18	0.07	0.00	0.04	0.06
Heating Boiler (003-01)	0.06	0.05	0.00	0.00	0.00	0.00
Hot Water Heater (003-02)	0.00	0.00	0.00	0.00	0.00	0.00
Site Wide Emissions (lb/hr)	**122.58**	**46.08**	**10.45**	**0.04**	**2.99**	**5.35**

[1] $PM = PM_{10} = PM_{2.5}$

Process/Facility	Potential Emissions (tpy)					
	NOx	CO	VOC	SO_2	PM[1]	HAPs
Compressor Engine #1 (C-001)	229.43	27.94	8.69	0.04	3.50	5.76
Compressor Engine #2 (C-002)	26.07	26.07	6.52	0.03	2.10	3.46
Compressor Engine #3 (C-003)	26.07	26.07	6.52	0.03	2.10	3.46
Compressor Engine #4 (C-004)	183.54	22.35	6.95	0.03	2.80	4.61
Compressor Engine #5 (C-005)	22.94	22.94	5.74	0.02	1.85	3.04
#1 Dehy Reboiler (004-01)	0.26	0.22	0.01	0.00	0.02	0.00
#1 TEG Dehydrator & Flash Tank Routed to Flare (004-01)	0.25	0.21	6.08	0.00	0.02	0.59
#2 Dehy Reboiler (004-02)	0.68	0.57	0.04	0.00	0.05	0.01
#2 TEG Dehydrator & Flash Tank Recirculated to Reboiler (004-02)	-	-	3.83	-	-	0.38
#2 Dehy Indirect Heater (004-02)	0.49	0.41	0.03	0.00	0.04	0.01
Generator #1 (G-001)	21.87	35.85	0.29	0.01	0.19	0.28
Generator #2 (G-002)	21.87	35.85	0.29	0.01	0.19	0.28
Heating Boiler (003-01)	0.27	0.23	0.02	0.00	0.02	0.01
Hot Water Heater (003-02)	0.01	0.01	0.00	0.00	0.00	0.00
Site Wide Emissions (tpy)	**533.77**	**198.71**	**44.98**	**0.17**	**12.86**	**21.90**

[1] $PM = PM_{10} = PM_{2.5}$

Draft
EQT - Copley Run Station
Facility-Wide Emissions Summary

Process/Facility	HAPs - Potential Emissions (lb/hr)					
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde
Compressor Engine #1 (C-001)	3.21E-02	1.78E-03	1.59E-02	4.43E-03	7.35E-03	9.12E-01
Compressor Engine #2 (C-002)	1.92E-02	1.07E-03	9.55E-03	2.66E-03	4.41E-03	5.47E-01
Compressor Engine #3 (C-003)	1.92E-02	1.07E-03	9.55E-03	2.66E-03	4.41E-03	5.47E-01
Compressor Engine #4 (C-004)	2.56E-02	1.43E-03	1.27E-02	3.54E-03	5.88E-03	7.30E-01
Compressor Engine #5 (C-005)	1.92E-02	1.07E-03	9.55E-03	2.66E-03	4.41E-03	5.47E-01
#1 Dehy Reboiler (004-01)	1.26E-06	-	2.05E-06	-	1.08E-03	4.51E-05
#1 TEG Dehydrator & Flash Tank Routed to Flare (004-01)	3.22E-02	2.09E-02	2.67E-02	2.59E-02	1.53E-02	-
#2 Dehy Reboiler (004-02)	3.25E-06	-	5.26E-06	-	2.78E-03	1.16E-04
#2 TEG Dehydrator & Flash Tank Recirculated to Reboiler (004-02)	1.98E-02	1.46E-02	1.69E-02	2.12E-02	6.27E-03	-
#2 Dehy Indirect Heater (004-02)	2.33E-06	-	3.78E-06	-	2.00E-03	8.33E-05
Generator #1 (G-001)	3.48E-03	5.46E-05	1.23E-03	4.29E-04	-	4.51E-02
Generator #2 (G-002)	3.48E-03	5.46E-05	1.23E-03	4.29E-04	-	4.51E-02
Heating Boiler (003-01)	1.31E-06	-	2.13E-06	-	1.13E-03	4.69E-05
Hot Water Heater (003-02)	5.83E-08	-	9.44E-08	-	5.00E-05	2.08E-06
Site Wide Emissions (lb/hr)	**0.17**	**0.04**	**0.10**	**0.06**	**0.06**	**3.37**

Process/Facility	HAPs - Potential Emissions (tpy)					
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde
Compressor Engine #1 (C-001)	0.140	0.008	0.070	0.019	0.032	3.995
Compressor Engine #2 (C-002)	0.084	0.005	0.042	0.012	0.019	2.397
Compressor Engine #3 (C-003)	0.084	0.005	0.042	0.012	0.019	2.397
Compressor Engine #4 (C-004)	0.112	0.006	0.056	0.016	0.026	3.196
Compressor Engine #5 (C-005)	0.074	0.004	0.037	0.010	0.017	2.109
#1 Dehy Reboiler (004-01)	0.000	-	0.000	-	0.005	0.000
#1 TEG Dehydrator & Flash Tank Routed to Flare (004-01)	0.141	0.092	0.117	0.113	0.114	-
#2 Dehy Reboiler (004-02)	0.000	-	0.000	-	0.012	0.001
#2 TEG Dehydrator & Flash Tank Recirculated to Reboiler (004-02)	0.087	0.064	0.074	0.093	0.027	-
#2 Dehy Indirect Heater (004-02)	0.000	-	0.000	-	0.009	0.000
Generator #1 (G-001)	0.015	0.000	0.005	0.002	-	0.198
Generator #2 (G-002)	0.015	0.000	0.005	0.002	-	0.198
Heating Boiler (003-01)	0.000	-	0.000	-	0.005	0.000
Hot Water Heater (003-02)	0.000	-	0.000	-	0.000	0.000
Site Wide Emissions (tpy)	**0.75**	**0.18**	**0.45**	**0.28**	**0.29**	**14.49**

Draft
EQT - Copley Run Station
Facility-Wide Emissions Summary

Process/Facility	GHG - Potential Emissions (lb/hr)[2]			
	CO_2	CH_4	N_2O	CO_2e
Compressor Engine #1 (C-001)	1931	0.036	0.0036	1933
Compressor Engine #2 (C-002)	1159	0.022	0.0022	1160
Compressor Engine #3 (C-003)	1159	0.022	0.0022	1160
Compressor Engine #4 (C-004)	1545	0.029	0.0029	1547
Compressor Engine #5 (C-005)	1159	0.022	0.0022	1160
#1 Dehy Reboiler (004-01)	76	0.000	0.0001	76
#1 TEG Dehydrator & Flash Tank Routed to Flare (004-01)	68	4.692	0.0012	167
#2 Dehy Reboiler (004-02)	195	0.000	0.0004	195
#2 TEG Dehydrator & Flash Tank Recirculated to Reboiler (004-02)	0	1.801	0.0000	38
#2 Dehy Indirect Heater (004-02)	140	0.000	0.0003	140
Generator #1 (G-001)	257	0.005	0.0005	257
Generator #2 (G-002)	257	0.005	0.0005	257
Heating Boiler (003-01)	79	0.001	0.0001	79
Hot Water Heater (003-02)	4	0.000	0.0000	4
Site Wide Emissions (lb/hr)	**8,029**	**6.64**	**0.02**	**8,174**

Process/Facility	GHG - Potential Emissions (tpy)[2]			
	CO_2	CH_4	N_2O	CO_2e
Compressor Engine #1 (C-001)	8460	0.160	0.0160	8468
Compressor Engine #2 (C-002)	5076	0.096	0.0096	5081
Compressor Engine #3 (C-003)	5076	0.096	0.0096	5081
Compressor Engine #4 (C-004)	6768	0.128	0.0128	6774
Compressor Engine #5 (C-005)	4467	0.084	0.0084	4471
#1 Dehy Reboiler (004-01)	333	0.000	0.0006	333
#1 TEG Dehydrator & Flash Tank Routed to Flare (004-01)	297	20.553	0.0054	730
#2 Dehy Reboiler (004-02)	855	0.000	0.0016	856
#2 TEG Dehydrator & Flash Tank Recirculated to Reboiler (004-02)	0	7.889	0.0000	166
#2 Dehy Indirect Heater (004-02)	614	0.000	0.0012	615
Generator #1 (G-001)	1126	0.021	0.0021	1127
Generator #2 (G-002)	1126	0.021	0.0021	1127
Heating Boiler (003-01)	346	0.007	0.0007	346
Hot Water Heater (003-02)	15	0.000	0.0000	15
Site Wide Emissions (tpy)	**34,559**	**29.05**	**0.07**	**35,191**

[2] Carbon equivalent emissions (CO_2e) are based on the following Global Warming Potentials (GWP) from 40 CFR Part 98, Table A-1:

Carbon Dioxide (CO_2):	1
Methane (CH_4):	21
Nitrous Oxide (N_2O):	310

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Copley Transmission Dehy (Dehy #2)
File Name: C:\Documents and Settings\cwilson\My Documents\2 PROJECTS\CLIENT\EQT\West Virginia\Copley Run\20110802 Title V Permit Renewal\Calculations\copley transmission dehy - 2011 for Permit.ddf
Date: December 09, 2011

DESCRIPTION:

Description: Copley Transmission Dehy (Dehy #2) - Max PTE @ 140 MMscfd and 100F and 270 psig. Flash tank and regen vent recirculated back to reboiler @ 95% control.

Annual Hours of Operation: 8760.0 hours/yr

EMISSIONS REPORTS:

CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0120	0.287	0.0524
Ethane	0.0022	0.054	0.0098
Propane	0.0028	0.068	0.0124
Isobutane	0.0009	0.021	0.0039
n-Butane	0.0017	0.041	0.0075
Isopentane	0.0006	0.015	0.0028
n-Pentane	0.0007	0.016	0.0030
n-Hexane	0.0005	0.011	0.0020
Cyclohexane	0.0005	0.012	0.0023
Other Hexanes	0.0006	0.015	0.0028
Heptanes	0.0005	0.013	0.0023
2,2,4-Trimethylpentane	0.0004	0.011	0.0019
Benzene	0.0131	0.314	0.0574
Toluene	0.0116	0.277	0.0506
Ethylbenzene	0.0104	0.250	0.0457
Xylenes	0.0165	0.396	0.0723
C8+ Heavies	0.0363	0.871	0.1590
Total Emissions	0.1114	2.674	0.4880
Total Hydrocarbon Emissions	0.1114	2.674	0.4880
Total VOC Emissions	0.0972	2.333	0.4257
Total HAP Emissions	0.0525	1.260	0.2299
Total BTEX Emissions	0.0516	1.238	0.2260

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.2395	5.748	1.0490
Ethane	0.0448	1.076	0.1963
Propane	0.0566	1.358	0.2478
Isobutane	0.0177	0.424	0.0774
n-Butane	0.0340	0.817	0.1491
Isopentane	0.0129	0.309	0.0564
n-Pentane	0.0135	0.324	0.0591
n-Hexane	0.0092	0.220	0.0402
Cyclohexane	0.0104	0.249	0.0455
Other Hexanes	0.0126	0.302	0.0550
Heptanes	0.0105	0.253	0.0461
2,2,4-Trimethylpentane	0.0088	0.211	0.0386
Benzene	0.2619	6.286	1.1472
Toluene	0.2310	5.545	1.0119
Ethylbenzene	0.2086	5.007	0.9137

Xylenes	0.3303	7.926	1.4465
C8+ Heavies	0.7259	17.422	3.1795
Total Emissions	2.2282	53.476	9.7595
Total Hydrocarbon Emissions	2.2282	53.476	9.7595
Total VOC Emissions	1.9439	46.653	8.5142
Total HAP Emissions	1.0498	25.195	4.5982
Total BTEX Emissions	1.0318	24.764	4.5194

FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0774	1.858	0.3390
Ethane	0.0074	0.179	0.0326
Propane	0.0028	0.068	0.0125
Isobutane	0.0008	0.020	0.0036
n-Butane	0.0013	0.030	0.0056
Isopentane	0.0005	0.013	0.0023
n-Pentane	0.0005	0.011	0.0021
n-Hexane	0.0003	0.006	0.0011
Cyclohexane	0.0001	0.003	0.0005
Other Hexanes	0.0004	0.010	0.0019
Heptanes	0.0002	0.005	0.0010
2,2,4-Trimethylpentane	0.0004	0.008	0.0015
Benzene	0.0002	0.006	0.0010
Toluene	0.0002	0.004	0.0008
Ethylbenzene	0.0001	0.003	0.0006
Xylenes	0.0001	0.003	0.0006
C8+ Heavies	0.0253	0.606	0.1107
Total Emissions	0.1181	2.835	0.5173
Total Hydrocarbon Emissions	0.1181	2.835	0.5173
Total VOC Emissions	0.0333	0.798	0.1457
Total HAP Emissions	0.0013	0.031	0.0057
Total BTEX Emissions	0.0007	0.017	0.0030

FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.5479	37.150	6.7799
Ethane	0.1490	3.576	0.6526
Propane	0.0569	1.365	0.2491
Isobutane	0.0164	0.394	0.0718
n-Butane	0.0254	0.610	0.1112
Isopentane	0.0106	0.255	0.0466
n-Pentane	0.0095	0.228	0.0416
n-Hexane	0.0050	0.121	0.0221
Cyclohexane	0.0022	0.052	0.0095
Other Hexanes	0.0087	0.210	0.0383
Heptanes	0.0045	0.107	0.0196
2,2,4-Trimethylpentane	0.0070	0.168	0.0307
Benzene	0.0047	0.113	0.0207
Toluene	0.0037	0.089	0.0163
Ethylbenzene	0.0027	0.064	0.0117
Xylenes	0.0027	0.064	0.0117
C8+ Heavies	0.5053	12.127	2.2132
Total Emissions	2.3622	56.693	10.3465
Total Hydrocarbon Emissions	2.3622	56.693	10.3465
Total VOC Emissions	0.6653	15.967	2.9140
Total HAP Emissions	0.0258	0.620	0.1132
Total BTEX Emissions	0.0138	0.331	0.0603

COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.0894	2.145	0.3914
Ethane	0.0097	0.233	0.0424
Propane	0.0057	0.136	0.0248
Isobutane	0.0017	0.041	0.0075
n-Butane	0.0030	0.071	0.0130
Isopentane	0.0012	0.028	0.0051
n-Pentane	0.0011	0.028	0.0050
n-Hexane	0.0007	0.017	0.0031
Cyclohexane	0.0006	0.015	0.0027
Other Hexanes	0.0011	0.026	0.0047
Heptanes	0.0007	0.018	0.0033
2,2,4-Trimethylpentane	0.0008	0.019	0.0035
Benzene	0.0133	0.320	0.0584
Toluene	0.0117	0.282	0.0514
Ethylbenzene	0.0106	0.254	0.0463
Xylenes	0.0166	0.400	0.0729
C8+ Heavies	0.0616	1.477	0.2696
Total Emissions	0.2295	5.508	1.0053
Total Hydrocarbon Emissions	0.2295	5.508	1.0053
Total VOC Emissions	0.1305	3.131	0.5714
Total HAP Emissions	0.0538	1.291	0.2356
Total BTEX Emissions	0.0523	1.255	0.2290

COMBINED REGENERATOR VENT/FLASH GAS EMISSION CONTROL REPORT:

Component	Uncontrolled tons/yr	Controlled tons/yr	% Reduction
Methane	7.8288	0.3914	95.00
Ethane	0.8489	0.0424	95.00
Propane	0.4969	0.0248	95.00
Isobutane	0.1493	0.0075	95.00
n-Butane	0.2604	0.0130	95.00
Isopentane	0.1030	0.0051	95.00
n-Pentane	0.1007	0.0050	95.00
n-Hexane	0.0623	0.0031	95.00
Cyclohexane	0.0549	0.0027	95.00
Other Hexanes	0.0933	0.0047	95.00
Heptanes	0.0657	0.0033	95.00
2,2,4-Trimethylpentane	0.0693	0.0035	95.00
Benzene	1.1679	0.0584	95.00
Toluene	1.0282	0.0514	95.00
Ethylbenzene	0.9254	0.0463	95.00
Xylenes	1.4582	0.0729	95.00
C8+ Heavies	5.3927	0.2696	95.00
Total Emissions	20.1059	1.0053	95.00
Total Hydrocarbon Emissions	20.1059	1.0053	95.00
Total VOC Emissions	11.4282	0.5714	95.00
Total HAP Emissions	4.7114	0.2356	95.00
Total BTEX Emissions	4.5798	0.2290	95.00

EQUIPMENT REPORTS:

COMBUSTION DEVICE

Ambient Temperature:	60.00 deg. F
Excess Oxygen:	15.00 %
Combustion Efficiency:	95.00 %
Supplemental Fuel Requirement:	3.73e-001 MM BTU/hr

Component	Emitted	Destroyed
Methane	5.00%	95.00%
Ethane	5.00%	95.00%
Propane	5.00%	95.00%
Isobutane	5.00%	95.00%
n-Butane	5.00%	95.00%
Isopentane	5.00%	95.00%
n-Pentane	5.00%	95.00%
n-Hexane	5.00%	95.00%
Cyclohexane	5.00%	95.00%
Other Hexanes	5.00%	95.00%
Heptanes	5.00%	95.00%
2,2,4-Trimethylpentane	5.00%	95.00%
Benzene	5.00%	95.00%
Toluene	5.00%	95.00%
Ethylbenzene	5.00%	95.00%
Xylenes	5.00%	95.00%
C8+ Heavies	5.00%	95.00%

ABSORBER

Calculated Absorber Stages:	8.78
Specified Dry Gas Dew Point:	7.00 lbs. H2O/MMSCF
Temperature:	100.0 deg. F
Pressure:	270.0 psig
Dry Gas Flow Rate:	140.0000 MMSCF/day
Glycol Losses with Dry Gas:	0.7873 lb/hr
Wet Gas Water Content:	Saturated
Calculated Wet Gas Water Content:	169.96 lbs. H2O/MMSCF
Calculated Lean Glycol Recirc. Ratio:	0.25 gal/lb H2O

Component	Remaining in Dry Gas	Absorbed in Glycol
Water	4.10%	95.90%
Carbon Dioxide	99.99%	0.01%
Nitrogen	100.00%	0.00%
Methane	100.00%	0.00%
Ethane	100.00%	0.00%
Propane	99.99%	0.01%
Isobutane	99.99%	0.01%
n-Butane	99.99%	0.01%
Isopentane	99.99%	0.01%
n-Pentane	99.98%	0.02%
n-Hexane	99.97%	0.03%
Cyclohexane	99.90%	0.10%
Other Hexanes	99.98%	0.02%
Heptanes	99.95%	0.05%
2,2,4-Trimethylpentane	99.98%	0.02%
Benzene	98.89%	1.11%
Toluene	98.34%	1.66%
Ethylbenzene	97.41%	2.59%
Xylenes	95.92%	4.08%
C8+ Heavies	99.71%	0.29%

FLASH TANK

Flash Control: Combustion device
Flash Control Efficiency: 95.00 %
Flash Temperature: 180.0 deg. F
Flash Pressure: 40.0 psig

Component	Left in Glycol	Removed in Flash Gas
Water	99.98%	0.02%
Carbon Dioxide	63.00%	37.00%
Nitrogen	10.79%	89.21%
Methane	13.40%	86.60%
Ethane	23.13%	76.87%
Propane	49.88%	50.12%
Isobutane	51.87%	48.13%
n-Butane	57.28%	42.72%
Isopentane	54.98%	45.02%
n-Pentane	58.93%	41.07%
n-Hexane	64.69%	35.31%
Cyclohexane	83.29%	16.71%
Other Hexanes	59.40%	40.60%
Heptanes	70.37%	29.63%
2,2,4-Trimethylpentane	56.31%	43.69%
Benzene	98.32%	1.68%
Toluene	98.54%	1.46%
Ethylbenzene	98.87%	1.13%
Xylenes	99.30%	0.70%
C8+ Heavies	63.89%	36.11%

REGENERATOR

No Stripping Gas used in regenerator.

Component	Remaining in Glycol	Distilled Overhead
Water	1.17%	98.83%
Carbon Dioxide	0.00%	100.00%
Nitrogen	0.00%	100.00%
Methane	0.00%	100.00%
Ethane	0.00%	100.00%
Propane	0.00%	100.00%
Isobutane	0.00%	100.00%
n-Butane	0.00%	100.00%
Isopentane	0.91%	99.09%
n-Pentane	0.85%	99.15%
n-Hexane	0.77%	99.23%
Cyclohexane	3.84%	96.16%
Other Hexanes	1.68%	98.32%
Heptanes	0.71%	99.29%
2,2,4-Trimethylpentane	2.66%	97.34%
Benzene	5.09%	94.91%
Toluene	8.02%	91.98%
Ethylbenzene	10.53%	89.47%
Xylenes	13.02%	86.98%
C8+ Heavies	18.79%	81.21%

STREAM REPORTS:

WET GAS STREAM

Temperature: 100.00 deg. F
Pressure: 284.70 psia
Flow Rate: 5.85e+006 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	3.58e-001	9.95e+002
Carbon Dioxide	1.33e+000	9.02e+003
Nitrogen	5.44e-001	2.35e+003
Methane	9.56e+001	2.37e+005
Ethane	1.70e+000	7.90e+003
Propane	2.71e-001	1.84e+003
Isobutane	4.38e-002	3.93e+002
n-Butane	5.68e-002	5.09e+002
Isopentane	1.69e-002	1.89e+002
n-Pentane	1.30e-002	1.44e+002
n-Hexane	3.99e-003	5.30e+001
Cyclohexane	9.96e-004	1.29e+001
Other Hexanes	7.97e-003	1.06e+002
Heptanes	1.99e-003	3.08e+001
2,2,4-Trimethylpentane	3.99e-003	7.02e+001
Benzene	1.99e-003	2.40e+001
Toluene	9.96e-004	1.42e+001
Ethylbenzene	4.98e-004	8.16e+000
Xylenes	4.98e-004	8.16e+000
C8+ Heavies	1.59e-002	4.19e+002
Total Components	100.00	2.61e+005

DRY GAS STREAM

Temperature: 100.00 deg. F
Pressure: 284.70 psia
Flow Rate: 5.83e+006 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	1.47e-002	4.08e+001
Carbon Dioxide	1.33e+000	9.02e+003
Nitrogen	5.46e-001	2.35e+003
Methane	9.60e+001	2.37e+005
Ethane	1.71e+000	7.90e+003
Propane	2.72e-001	1.84e+003
Isobutane	4.40e-002	3.93e+002
n-Butane	5.70e-002	5.09e+002
Isopentane	1.70e-002	1.89e+002
n-Pentane	1.30e-002	1.44e+002
n-Hexane	4.00e-003	5.30e+001
Cyclohexane	9.99e-004	1.29e+001
Other Hexanes	8.00e-003	1.06e+002
Heptanes	2.00e-003	3.08e+001
2,2,4-Trimethylpentane	4.00e-003	7.02e+001
Benzene	1.98e-003	2.37e+001
Toluene	9.83e-004	1.39e+001
Ethylbenzene	4.87e-004	7.95e+000
Xylenes	4.80e-004	7.83e+000
C8+ Heavies	1.60e-002	4.18e+002
Total Components	100.00	2.60e+005

LEAN GLYCOL STREAM

Temperature: 100.00 deg. F
Flow Rate: 4.00e+000 gpm

Component	Conc.	Loading

	(wt%)	(lb/hr)
TEG	9.95e+001	2.24e+003
Water	5.00e-001	1.13e+001
Carbon Dioxide	5.32e-012	1.20e-010
Nitrogen	6.74e-014	1.52e-012
Methane	2.66e-018	6.01e-017
Ethane	4.06e-009	9.15e-008
Propane	2.05e-010	4.62e-009
Isobutane	4.54e-011	1.02e-009
n-Butane	6.54e-011	1.47e-009
Isopentane	5.24e-006	1.18e-004
n-Pentane	5.13e-006	1.16e-004
n-Hexane	3.17e-006	7.15e-005
Cyclohexane	1.84e-005	4.15e-004
Other Hexanes	9.54e-006	2.15e-004
Heptanes	3.34e-006	7.54e-005
2,2,4-Trimethylpentane	1.07e-005	2.41e-004
Benzene	6.23e-004	1.40e-002
Toluene	8.94e-004	2.01e-002
Ethylbenzene	1.09e-003	2.46e-002
Xylenes	2.19e-003	4.94e-002
C8+ Heavies	7.45e-003	1.68e-001
Total Components	100.00	2.25e+003

RICH GLYCOL STREAM

Temperature: 100.00 deg. F
Pressure: 284.70 psia
Flow Rate: 5.85e+000 gpm
NOTE: Stream has more than one phase.

Component	Conc. (wt%)	Loading (lb/hr)
TEG	6.95e+001	2.21e+003
Water	3.03e+001	9.65e+002
Carbon Dioxide	3.77e-002	1.20e+000
Nitrogen	4.79e-004	1.52e-002
Methane	5.61e-002	1.79e+000
Ethane	6.09e-003	1.94e-001
Propane	3.56e-003	1.13e-001
Isobutane	1.07e-003	3.41e-002
n-Butane	1.87e-003	5.94e-002
Isopentane	7.42e-004	2.36e-002
n-Pentane	7.26e-004	2.31e-002
n-Hexane	4.49e-004	1.43e-002
Cyclohexane	4.07e-004	1.30e-002
Other Hexanes	6.76e-004	2.15e-002
Heptanes	4.73e-004	1.51e-002
2,2,4-Trimethylpentane	5.04e-004	1.61e-002
Benzene	8.81e-003	2.81e-001
Toluene	8.00e-003	2.55e-001
Ethylbenzene	7.41e-003	2.36e-001
Xylenes	1.20e-002	3.82e-001
C8+ Heavies	4.39e-002	1.40e+000
Total Components	100.00	3.18e+003

FLASH TANK OFF GAS STREAM

Temperature: 180.00 deg. F
Pressure: 54.70 psia
Flow Rate: 4.92e+001 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	9.21e+000	2.15e-001
Carbon Dioxide	7.78e+000	4.44e-001
Nitrogen	3.74e-001	1.36e-002
Methane	7.44e+001	1.55e+000
Ethane	3.82e+000	1.49e-001
Propane	9.94e-001	5.69e-002
Isobutane	2.18e-001	1.64e-002
n-Butane	3.37e-001	2.54e-002
Isopentane	1.14e-001	1.06e-002
n-Pentane	1.01e-001	9.49e-003
n-Hexane	4.52e-002	5.05e-003
Cyclohexane	1.98e-002	2.16e-003
Other Hexanes	7.82e-002	8.73e-003
Heptanes	3.44e-002	4.47e-003
2,2,4-Trimethylpentane	4.74e-002	7.02e-003
Benzene	4.66e-002	4.72e-003
Toluene	3.12e-002	3.73e-003
Ethylbenzene	1.94e-002	2.67e-003
Xylenes	1.93e-002	2.66e-003
C8+ Heavies	2.29e+000	5.05e-001
Total Components	100.00	3.03e+000

FLASH TANK GLYCOL STREAM

Temperature: 180.00 deg. F
Flow Rate: 5.84e+000 gpm

Component	Conc. (wt%)	Loading (lb/hr)	(ppm)
TEG	6.96e+001	2.21e+003	695568.
Water	3.03e+001	9.65e+002	303406.
Carbon Dioxide	2.38e-002	7.56e-001	238.
Nitrogen	5.17e-005	1.65e-003	1.
Methane	7.53e-003	2.39e-001	75.
Ethane	1.41e-003	4.48e-002	14.
Propane	1.78e-003	5.66e-002	18.
Isobutane	5.56e-004	1.77e-002	6.
n-Butane	1.07e-003	3.40e-002	11.
Isopentane	4.08e-004	1.30e-002	4.
n-Pentane	4.28e-004	1.36e-002	4.
n-Hexane	2.91e-004	9.25e-003	3.
Cyclohexane	3.39e-004	1.08e-002	3.
Other Hexanes	4.02e-004	1.28e-002	4.
Heptanes	3.33e-004	1.06e-002	3.
2,2,4-Trimethylpentane	2.84e-004	9.05e-003	3.
Benzene	8.67e-003	2.76e-001	87.
Toluene	7.90e-003	2.51e-001	79.
Ethylbenzene	7.33e-003	2.33e-001	73.
Xylenes	1.19e-002	3.80e-001	119.
C8+ Heavies	2.81e-002	8.94e-001	281.
Total Components	100.00	3.18e+003	1000000.

FLASH GAS EMISSIONS

Flow Rate: 1.59e+002 scfh
Control Method: Combustion Device
Control Efficiency: 95.00

Component	Conc. (vol%)	Loading (lb/hr)

Water	6.16e+001	4.66e+000
Carbon Dioxide	3.70e+001	6.85e+000
Nitrogen	1.16e-001	1.36e-002
Methane	1.15e+000	7.74e-002
Ethane	5.90e-002	7.45e-003
Propane	1.54e-002	2.84e-003
Isobutane	3.36e-003	8.20e-004
n-Butane	5.20e-003	1.27e-003
Isopentane	1.76e-003	5.32e-004
n-Pentane	1.57e-003	4.75e-004
n-Hexane	6.97e-004	2.52e-004
Cyclohexane	3.06e-004	1.08e-004
Other Hexanes	1.21e-003	4.37e-004
Heptanes	5.31e-004	2.23e-004
2,2,4-Trimethylpentane	7.31e-004	3.51e-004
Benzene	7.20e-004	2.36e-004
Toluene	4.82e-004	1.86e-004
Ethylbenzene	2.99e-004	1.33e-004
Xylenes	2.98e-004	1.33e-004
C8+ Heavies	3.53e-002	2.53e-002
Total Components	100.00	1.16e+001

REGENERATOR OVERHEADS STREAM

Temperature: 212.00 deg. F
Pressure: 14.70 psia
Flow Rate: 2.01e+004 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Water	9.99e+001	9.54e+002
Carbon Dioxide	3.24e-002	7.56e-001
Nitrogen	1.11e-004	1.65e-003
Methane	2.82e-002	2.39e-001
Ethane	2.81e-003	4.48e-002
Propane	2.42e-003	5.66e-002
Isobutane	5.74e-004	1.77e-002
n-Butane	1.10e-003	3.40e-002
Isopentane	3.37e-004	1.29e-002
n-Pentane	3.53e-004	1.35e-002
n-Hexane	2.01e-004	9.18e-003
Cyclohexane	2.33e-004	1.04e-002
Other Hexanes	2.75e-004	1.26e-002
Heptanes	1.98e-004	1.05e-002
2,2,4-Trimethylpentane	1.45e-004	8.80e-003
Benzene	6.32e-003	2.62e-001
Toluene	4.73e-003	2.31e-001
Ethylbenzene	3.71e-003	2.09e-001
Xylenes	5.87e-003	3.30e-001
C8+ Heavies	8.04e-003	7.26e-001
Total Components	100.00	9.57e+002

COMBUSTION DEVICE OFF GAS STREAM

Temperature: 1000.00 deg. F
Pressure: 14.70 psia
Flow Rate: 6.59e-001 scfh

Component	Conc. (vol%)	Loading (lb/hr)
Methane	4.30e+001	1.20e-002
Ethane	4.29e+000	2.24e-003
Propane	3.70e+000	2.83e-003
Isobutane	8.76e-001	8.84e-004

n-Butane	1.69e+000	1.70e-003
Isopentane	5.14e-001	6.44e-004
n-Pentane	5.39e-001	6.75e-004
n-Hexane	3.07e-001	4.59e-004
Cyclohexane	3.55e-001	5.19e-004
Other Hexanes	4.20e-001	6.28e-004
Heptanes	3.03e-001	5.27e-004
2,2,4-Trimethylpentane	2.22e-001	4.40e-004
Benzene	9.66e+000	1.31e-002
Toluene	7.22e+000	1.16e-002
Ethylbenzene	5.66e+000	1.04e-002
Xylenes	8.96e+000	1.65e-002
C8+ Heavies	1.23e+001	3.63e-002
Total Components	100.00	1.11e-001

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Copley1
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		24.00
Diameter (ft):		5.33
Volume (gallons):		4,000.00
Turnovers:		1.00
Net Throughput(gal/yr):		4,000.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley1 - Horizontal Tank
, West Virginia

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
triethylene glycol	All	63.43	53.60	73.25	58.06	0.0000		0.0000	9.3600			150.20	Option 2: A=6.7568, B=3715.222, C=-1.299

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Copley1 - Horizontal Tank
, West Virginia

Annual Emission Calcaulations	
Standing Losses (lb):	0.0000
Vapor Space Volume (cu ft):	341.0797
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	1.0000
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	341.0797
Tank Diameter (ft):	5.3300
Effective Diameter (ft):	12.7654
Vapor Space Outage (ft):	2.6650
Tank Shell Length (ft):	24.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	9.3600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0000
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	1.0000
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0000
Vapor Space Outage (ft):	2.6650
Working Losses (lb):	0.0000

Vapor Molecular Weight (lb/lb-mole):	9.3600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Annual Net Throughput (gal/yr.):	4,000.0000
Annual Turnovers:	1.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.3300
Working Loss Product Factor:	1.0000

Total Losses (lb): 0.0000

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley1 - Horizontal Tank
, West Virginia

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
triethylene glycol	0.00	0.00	0.00

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Copley 2
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		35.00
Diameter (ft):		10.00
Volume (gallons):		20,000.00
Turnovers:		0.00
Net Throughput(gal/yr):		68,000.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 2 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
Propylene glycol	All	63.43	53.60	73.25	58.06	0.0011	0.0007	0.0019	76.1100			76.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Copley 2 - Horizontal Tank

Annual Emission Calcaulations

Standing Losses (lb):	0.7417
Vapor Space Volume (cu ft):	1,750.8876
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	0.9997
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,750.8876
Tank Diameter (ft):	10.0000
Effective Diameter (ft):	21.1154
Vapor Space Outage (ft):	5.0000
Tank Shell Length (ft):	35.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0013
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0007
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0019
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9997
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0011
Vapor Space Outage (ft):	5.0000
Working Losses (lb):	0.1402
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Annual Net Throughput (gal/yr.):	68,000.0000
Annual Turnovers:	0.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	10.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.8819

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 2 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Propylene glycol	0.14	0.74	0.88

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Copley 3
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		13.00
Diameter (ft):		5.00
Volume (gallons):		2,000.00
Turnovers:		1.00
Net Throughput(gal/yr):		2,000.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 3 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Crude oil (RVP 5)	All	63.43	53.60	73.25	58.06	3.0767	2.5338	3.7094	50.0000			207.00	Option 4: RVP=5

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Copley 3 - Horizontal Tank

Annual Emission Calcaulations	
Standing Losses (lb):	208.3575
Vapor Space Volume (cu ft):	162.5824
Vapor Density (lb/cu ft):	0.0274
Vapor Space Expansion Factor:	0.1803
Vented Vapor Saturation Factor:	0.7104
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	162.5824
Tank Diameter (ft):	5.0000
Effective Diameter (ft):	9.0996
Vapor Space Outage (ft):	2.5000
Tank Shell Length (ft):	13.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0274
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1803
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	1.1756
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	2.5338
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	3.7094
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7104
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	3.0767
Vapor Space Outage (ft):	2.5000
Working Losses (lb):	5.4942
Vapor Molecular Weight (lb/lb-mole):	50.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	3.0767

Annual Net Throughput (gal/yr.):	2,000.0000
Annual Turnovers:	1.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.0000
Working Loss Product Factor:	0.7500
Total Losses (lb):	213.8517

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 3 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Crude oil (RVP 5)	5.49	208.36	213.85

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristi

Identification

User Identification:	Copley4
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		12.00
Diameter (ft):		5.33
Volume (gallons):		2,000.00
Turnovers:		1.50
Net Throughput(gal/yr):		3,000.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley4 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
Methyl alcohol	All	63.43	53.60	73.25	58.06	1.6051	1.1753	2.1628	32.0400			32.04

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Copley4 - Horizontal Tank

Annual Emission Calcaulations

Standing Losses (lb):	71.2357
Vapor Space Volume (cu ft):	170.5399
Vapor Density (lb/cu ft):	0.0092
Vapor Space Expansion Factor:	0.1532
Vented Vapor Saturation Factor:	0.8152
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	170.5399
Tank Diameter (ft):	5.3300
Effective Diameter (ft):	9.0265
Vapor Space Outage (ft):	2.6650
Tank Shell Length (ft):	12.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0092
Vapor Molecular Weight (lb/lb-mole):	32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.1532
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.9875
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.1753
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	2.1628
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.8152
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.6051
Vapor Space Outage (ft):	2.6650
Working Losses (lb):	3.6734
Vapor Molecular Weight (lb/lb-mole):	32.0400
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6051
Annual Net Throughput (gal/yr.):	3,000.0000
Annual Turnovers:	1.5000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.3300
Working Loss Product Factor:	1.0000
Total Losses (lb):	74.9091

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley4 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Methyl alcohol	3.67	71.24	74.91

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Copley 5
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):		18.00
Diameter (ft):		9.00
Volume (gallons):		7,500.00
Turnovers:		0.00
Net Throughput(gal/yr):		7,500.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 5 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
Residual oil no. 6	All	63.43	53.60	73.25	58.06	0.0000	0.0000	0.0001	190.0000			387.00

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Copley 5 - Horizontal Tank

Annual Emission Calcaulations

Standing Losses (lb):	0.0317
Vapor Space Volume (cu ft):	729.3698
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	1.0000
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	729.3698
Tank Diameter (ft):	9.0000
Effective Diameter (ft):	14.3656
Vapor Space Outage (ft):	4.5000
Tank Shell Length (ft):	18.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	190.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0000
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0000
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0001
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	1.0000
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0000
Vapor Space Outage (ft):	4.5000
Working Losses (lb):	0.0016
Vapor Molecular Weight (lb/lb-mole):	190.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0000
Annual Net Throughput (gal/yr.):	7,500.0000
Annual Turnovers:	0.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	9.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.0333

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 5 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Residual oil no. 6	0.00	0.03	0.03

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Copley 6
City:	
State:	West Virginia
Company:	
Type of Tank:	Horizontal Tank
Description:	

Tank Dimensions

Shell Length (ft):	20.00
Diameter (ft):	5.00
Volume (gallons):	3,000.00
Turnovers:	0.00
Net Throughput(gal/yr):	3,000.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Medium
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Charleston, West Virginia (Avg Atmospheric Pressure = 14.25 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Copley 6 - Horizontal Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
Propylene glycol	All	63.43	53.60	73.25	58.06	0.0011	0.0007	0.0019	76.1100			76.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Copley 6 - Horizontal Tank

Annual Emission Calcaulations	
Standing Losses (lb):	0.1060
Vapor Space Volume (cu ft):	250.1268
Vapor Density (lb/cu ft):	0.0000
Vapor Space Expansion Factor:	0.0752
Vented Vapor Saturation Factor:	0.9998
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	250.1268
Tank Diameter (ft):	5.0000
Effective Diameter (ft):	11.2867
Vapor Space Outage (ft):	2.5000
Tank Shell Length (ft):	20.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0000
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Daily Avg. Liquid Surface Temp. (deg. R):	523.0962
Daily Average Ambient Temp. (deg. F):	54.9833
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	517.7333
Tank Paint Solar Absorptance (Shell):	0.6800
Daily Total Solar Insulation Factor (Btu/sqft day):	1,250.5726
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0752
Daily Vapor Temperature Range (deg. R):	39.3149
Daily Vapor Pressure Range (psia):	0.0013
Breather Vent Press. Setting Range(psia):	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.0007
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.0019
Daily Avg. Liquid Surface Temp. (deg R):	523.0962
Daily Min. Liquid Surface Temp. (deg R):	513.2675
Daily Max. Liquid Surface Temp. (deg R):	532.9249
Daily Ambient Temp. Range (deg. R):	21.5333
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.9998
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.0011
Vapor Space Outage (ft):	2.5000
Working Losses (lb):	0.0062
Vapor Molecular Weight (lb/lb-mole):	76.1100
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0011
Annual Net Throughput (gal/yr.):	3,000.0000
Annual Turnovers:	0.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	5.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	0.1122

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

Copley 6 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Propylene glycol	0.01	0.11	0.11

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: 009	**List all emission units associated with this control device.** Dehy Reboiler #1	
Manufacturer: Flare Industries Inc.	**Model number:** Unknown	**Installation date:** 1992

Type of Air Pollution Control Device:

___ Baghouse/Fabric Filter	___ Venturi Scrubber	___ Multiclone
___ Carbon Bed Adsorber	___ Packed Tower Scrubber	___ Single Cyclone
___ Carbon Drum(s)	___ Other Wet Scrubber	___ Cyclone Bank
___ Catalytic Incinerator	___ Condenser	___ Settling Chamber
___ Thermal Incinerator	_X_ Flare	___ Other (describe) _____
___ Wet Plate Electrostatic Precipitator		___ Dry Plate Electrostatic Precipitator

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
VOC	100%	98%
HAPs	100%	98%

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Elevated flare which captures emissions from Dehy #1 regenerator vent and flash separator.

Is this device subject to the CAM requirements of 40 C.F.R. 64? ___ Yes _X_ No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

- Perform visual emission inspections.
- Monthly sample inlet and outlet dehy gas streams utilizing Gas Chromatography for the presence of sulfur and H_2S.
- Monthly calculate the average hourly emission rate using GRI-GLYCALC for VOC, GRI-HAPCALC for HAPs and the amount of natural gas for NOx and CO.
- Record dehy operating hours and natural gas flow.
- Add emission calculations and portable analyzer results for NOx, CO, and VOC – maintain 12-month running total.

APPENDIX H – COMPLIANCE ASSURANCE MONITORING PLAN

ATTACHMENT H - Compliance Assurance Monitoring (CAM) Plan Form

For definitions and information about the CAM rule, please refer to 40 CFR Part 64. Additional information (including guidance documents) may also be found at http://www.epa.gov/ttn/emc/cam.html

CAM APPLICABILITY DETERMINATION

1) Does the facility have a PSEU (Pollutant-Specific Emissions Unit considered separately with respect to **EACH** regulated air pollutant) that is subject to CAM (40 CFR Part 64), which must be addressed in this CAM plan submittal? To determine applicability, a PSEU must meet **all** of the following criteria (*If No, then the remainder of this form need not be completed*): ☐ YES ☒ NO

a. The PSEU is located at a major source that is required to obtain a Title V permit;

b. The PSEU is subject to an emission limitation or standard for the applicable regulated air pollutant that is NOT exempt;

LIST OF EXEMPT EMISSION LIMITATIONS OR STANDARDS:

- NSPS (40 CFR Part 60) or NESHAP (40 CFR Parts 61 and 63) proposed after 11/15/1990.
- Stratospheric Ozone Protection Requirements.
- Acid Rain Program Requirements.
- Emission Limitations or Standards for which a WVDEP Division of Air Quality Title V permit specifies a continuous compliance determination method, as defined in 40 CFR §64.1.
- An emission cap that meets the requirements specified in 40 CFR §70.4(b)(12).

c. The PSEU uses an add-on control device (as defined in 40 CFR §64.1) to achieve compliance with an emission limitation or standard;

d. The PSEU has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than the Title V Major Source Threshold Levels; AND

e. The PSEU is NOT an exempt backup utility power emissions unit that is municipally-owned.

BASIS OF CAM SUBMITTAL

2) Mark the appropriate box below as to why this CAM plan is being submitted as part of an application for a Title V permit:

☐ RENEWAL APPLICATION. **ALL** PSEUs for which a CAM plan has NOT yet been approved need to be addressed in this CAM plan submittal.

☐ INITIAL APPLICATION (submitted after 4/20/98). **ONLY** large PSEUs (i. e., PSEUs with potential post-control device emissions of an applicable regulated air pollutant that are equal to or greater than Major Source Threshold Levels) need to be addressed in this CAM plan submittal.

☐ SIGNIFICANT MODIFICATION TO LARGE PSEUs. **ONLY** large PSEUs being modified after 4/20/98 need to be addressed in this cam plan submittal. For large PSEUs with an approved CAM plan, Only address the appropriate monitoring requirements affected by the significant modification.

3) [a] *BACKGROUND DATA AND INFORMATION*

Complete the following table for **all** PSEUs that need to be addressed in this CAM plan submittal. This section is to be used to provide background data and information for each PSEU In order to supplement the submittal requirements specified in 40 CFR §64.4. If additional space is needed, attach and label accordingly.

PSEU DESIGNATION	DESCRIPTION	POLLUTANT	CONTROL DEVICE	[b] EMISSION LIMITATION or STANDARD	[c] MONITORING REQUIREMENT
EXAMPLE Boiler No. 1	Wood-Fired Boiler	PM	Multiclone	45CSR§2-4.1.c.; 9.0 lb/hr	Monitor pressure drop across multiclone: Weekly inspection of multiclone

[a] If a control device is common to more than one PSEU, one monitoring plan may be submitted for the control device with the affected PSEUs identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a). If a single PSEU is controlled by more than one control device similar in design and operation, one monitoring plan for the applicable control devices may be submitted with the applicable control devices identified and any conditions that must be maintained or monitored in accordance with 40 CFR §64.3(a).

[b] Indicate the emission limitation or standard for any applicable requirement that constitutes an emission limitation, emission standard, or standard of performance (as defined in 40 CFR §64.1).

[c] Indicate the monitoring requirements for the PSEU that are required by an applicable regulation or permit condition.

CAM MONITORING APPROACH CRITERIA			
Complete this section for **EACH** PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide monitoring data and information for EACH indicator selected for EACH PSEU in order to meet the monitoring design criteria specified in 40 CFR §64.3 and §64.4. if more than two indicators are being selected for a PSEU or if additional space is needed, attach and label accordingly with the appropriate PSEU designation, pollutant, and indicator numbers.			
4a) PSEU Designation:	**4b) Pollutant:**	**4c) [a] Indicator No. 1:**	**4d) [a] Indicator No. 2:**
5a) GENERAL CRITERIA Describe the MONITORING APPROACH used to measure the indicators:			
[b] Establish the appropriate INDICATOR RANGE or the procedures for establishing the indicator range which provides a reasonable assurance of compliance:			
5b) PERFORMANCE CRITERIA Provide the SPECIFICATIONS FOR OBTAINING REPRESENTATIVE DATA, such as detector location, installation specifications, and minimum acceptable accuracy:			
[c] For new or modified monitoring equipment, provide VERIFICATION PROCEDURES, including manufacturer's recommendations, TO CONFIRM THE OPERATIONAL STATUS of the monitoring:			
Provide QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PRACTICES that are adequate to ensure the continuing validity of the data, (i.e., daily calibrations, visual inspections, routine maintenance, RATA, etc.):			
[d] Provide the MONITORING FREQUENCY:			
Provide the DATA COLLECTION PROCEDURES that will be used:			
Provide the DATA AVERAGING PERIOD for the purpose of determining whether an excursion or exceedance has occurred:			

[a] Describe all indicators to be monitored which satisfies 40 CFR §64.3(a). Indicators of emission control performance for the control device and associated capture system may include measured or predicted emissions (including visible emissions or opacity), process and control device operating parameters that affect control device (and capture system) efficiency or emission rates, or recorded findings of inspection and maintenance activities.

[b] Indicator Ranges may be based on a single maximum or minimum value or at multiple levels that are relevant to distinctly different operating conditions, expressed as a function of process variables, expressed as maintaining the applicable indicator in a particular operational status or designated condition, or established as interdependent between more than one indicator. For CEMS, COMS, or PEMS, include the most recent certification test for the monitor.

[c] The verification for operational status should include procedures for installation, calibration, and operation of the monitoring equipment, conducted in accordance with the manufacturer's recommendations, necessary to confirm the monitoring equipment is operational prior to the commencement of the required monitoring.

[d] Emission units with post-control PTE ≥ 100 percent of the amount classifying the source as a major source (i.e., Large PSEU) must collect four or more values per hour to be averaged. A reduced data collection frequency may be approved in limited circumstances. Other emission units must collect data at least once per 24 hour period.

RATIONALE AND JUSTIFICATION

Complete this section for EACH PSEU that needs to be addressed in this CAM plan submittal. This section may be copied as needed for each PSEU. This section is to be used to provide rationale and justification for the selection of EACH indicator and monitoring approach and EACH indicator range in order to meet the submittal requirements specified in 40 CFR §64.4.

6a) PSEU Designation:	6b) Regulated Air Pollutant:

7) **INDICATORS AND THE MONITORING APPROACH**: Provide the rationale and justification for the selection of the indicators and the monitoring approach used to measure the indicators. Also provide any data supporting the rationale and justification. Explain the reasons for any differences between the verification of operational status or the quality assurance and control practices proposed, and the manufacturer's recommendations. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

8) **INDICATOR RANGES**: Provide the rationale and justification for the selection of the indicator ranges. The rationale and justification shall indicate how **EACH** indicator range was selected by either a COMPLIANCE OR PERFORMANCE TEST, a TEST PLAN AND SCHEDULE, or by ENGINEERING ASSESSMENTS. Depending on which method is being used for each indicator range, include the specific information required below for that specific indicator range. (If additional space is needed, attach and label accordingly with the appropriate PSEU designation and pollutant):

- COMPLIANCE OR PERFORMANCE TEST (Indicator ranges determined from control device operating parameter data obtained during a compliance or performance test conducted under regulatory specified conditions or under conditions representative of maximum potential emissions under anticipated operating conditions. Such data may be supplemented by engineering assessments and manufacturer's recommendations). The rationale and justification shall INCLUDE a summary of the compliance or performance test results that were used to determine the indicator range, and documentation indicating that no changes have taken place that could result in a significant change in the control system performance or the selected indicator ranges since the compliance or performance test was conducted.

- TEST PLAN AND SCHEDULE (Indicator ranges will be determined from a proposed implementation plan and schedule for installing, testing, and performing any other appropriate activities prior to use of the monitoring). The rationale and justification shall INCLUDE the proposed implementation plan and schedule that will provide for use of the monitoring as expeditiously as practicable after approval of this CAM plan, except that in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval.

- ENGINEERING ASSESSMENTS (Indicator Ranges or the procedures for establishing indicator ranges are determined from engineering assessments and other data, such as manufacturers' design criteria and historical monitoring data, because factors specific to the type of monitoring, control device, or PSEU make compliance or performance testing unnecessary). The rationale and justification shall INCLUDE documentation demonstrating that compliance testing is not required to establish the indicator range.

RATIONALE AND JUSTIFICATION: