Summit Midstream Partners, LLC
999 18th Street, Suite 3400S
Denver, CO 80202
Phone: 720.452.6220
www.summitmidstream.com

February 12, 2015

West Virginia Department of Environmental Protection
Division of Air Quality, Permitting Section
601 57th Street, SE
Charleston, WV 25304

RE: Class II Administrative Update – Change in TEG Dehydration Unit and Flare Emissions
Midpoint Compressor Station
Plant ID # 017-00035
R13-2929B

Ladies/Gentlemen,

Summit Midstream Partners, LLC (Summit Midstream), on behalf of Mountaineer Midstream Company, LLC (Mountaineer Midstream), submits this letter and application, as a Class II Administrative Update to the 45CSR13 NSR construction permit R13-2929B for the Midpoint Compressor Station located in Doddridge County. Permit R13-2929B was issued on January 28, 2015.

Per Section 7.3.2 of Permit R13-2929B, Summit Midstream collected an inlet wet natural gas sample in December 2014. The results of the gas analysis showed a change in the natural gas composition received by Midpoint Compressor Station. As a result of this gas composition change, Summit Midstream respectfully requests that the following change be made to the permitted emissions for the TEG Dehydration Unit (DH-001) and the Flare (FL-991):

- **Section 7.1.2:** Increase the permitted emission limits to reflect actual conditions at the facility.
- **Section 7.1.2:** Revise the permitted emissions so that the list of permitted pollutants is consistent with Section 6.1.2 of the Air Permit for Zinnia Compressor Station (Permit R13-2968). We request that the permitted emissions include Volatile Organic Compounds (VOCs), Nitrogen Oxides (NOx), and Carbon Monoxide (CO).

Please find all necessary forms, emission calculations and documentation required to complete this request. If you have any questions or need any further information please contact Andrew Parisi at (303) 626-8269 or via email at aparisi@summitmidstream.com.

Sincerely,

Megan C. Davis

Megan C. Davis
Vice President of Regulatory and Senior Counsel
Summit Midstream Partners, LLC.
(214) 462-7704
mdavis@summitmidstream.com

January 2015

45CSR13 PERMIT MODIFICATION APPLICATON R13-2929B

MIDPOINT COMPRESSOR STATION

PLANT ID #017-00035

MOUNTAINEER MIDSTREAM COMPANY, LLC.

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P	Public Notice

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☒ **CLASS II ADMINISTRATIVE UPDATE** ☒ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Mountaineer Midstream Company, LLC

2. Federal Employer ID No. ***(FEIN):***
27-0770380

3. Name of facility *(if different from above):*
Midpoint Compressor Station

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
999 18th Street, Suite 3400S
Denver, CO 80202

5B. Facility's present physical address:
Off Brushy Fork Road south of Co Road 25 near New Milton, Doddridge County, WV.

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☐ **YES** ☒ **NO**

- If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: **Summit Midstream Partners, LLC**

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**

- If **YES,** please explain: **Applicant has contract to lease this property.**
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.):
Natural gas compressor station

10. North American Industry Classification System **(NAICS)** code for the facility:
211111

11A. DAQ Plant ID No. (for existing facilities only):
017-00035

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only): **R13-2929B, Issued on 1/28/2015**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.
  - **From intersection of State Highway 18 and Co Route 25 head west/south on Co Route 25 (3.3 mi), Turn right on Brushy Fork Rd/Co. Route 56 (0.6 mi), turn right and follow to Midpoint CS (0.5 mi).**

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
Off Brushy Fork Road, South of Co Road 25	**New Milton**	**Doddridge**
12.E. UTM Northing (KM): **4339.327**	12F. UTM Easting (KM): **527.416**	12G. UTM Zone: **17S**

13. Briefly describe the proposed change(s) at the facility:
Increase HAP and VOC emissions for existing Dehydration Unit (DH-001)

14A. Provide the date of anticipated installation or change:	14B. Date of anticipated Start-Up if a permit is granted:
- If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: **December 2014**	**existing source**

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day **24** Days Per Week **7** Weeks Per Year **24**

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** ☒ **NO**

17**. Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18**. Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) **.**
- Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**
- Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

N/A - No changes have been made to the facility.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

- For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations
☐ Chemical Processes
☐ Concrete Batch Plant
☐ Grey Iron and Steel Foundry
☐ Haul Road Emissions
☐ Hot Mix Asphalt Plant
☐ Incinerator
☐ Indirect Heat Exchanger
☐ Quarry
☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Storage Tanks
☒ General Emission Unit, specify: **TEG Dehydration Unit**

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems
☐ Adsorption Systems
☐ Afterburner
☐ Baghouse
☐ Condenser
☐ Electrostatic Precipitator
☒ Flare
☐ Mechanical Collector
☐ Wet Collecting System
☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33**. 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 found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity
☐ Authority of Partnership
☐ Authority of Governmental Agency
☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

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.

SIGNATURE Megan C. Davis *(Please use blue ink)* DATE: 9-19-15 *(Please use blue ink)*

35B. Printed name of signee: **Megan C. Davis**		35C.Title: **VP of Regulatory and Senior Counsel**
35D. E-mail: **mdavis@summitmidstream.com**	36E. Phone: **(214) 462-7704**	36F. FAX:
36A. Printed name of contact person (if different from above): **Andrew Parisi**		36B. Title: **Director of Environmental**
36C. E-mail: **aparisi@summitmidstream.com**	36D. Phone: **(303) 626-8269**	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ **Attachment A: Business Certificate**
- ☒ **Attachment B: Map(s)**
- ☐ **Attachment C: Installation and Start Up Schedule**
- ☐ **Attachment D: Regulatory Discussion**
- ☒ **Attachment E: Plot Plan**
- ☐ **Attachment F: Detailed Process Flow Diagram(s)**
- ☐ **Attachment G: Process Description**
- ☐ **Attachment H: Material Safety Data Sheets (MSDS)**
- ☒ **Attachment I: Emission Units Table**
- ☒ **Attachment J: Emission Points Data Summary Sheet**
- ☐ **Attachment K: Fugitive Emissions Data Summary Sheet**
- ☒ **Attachment L: Emissions Unit Data Sheet(s)**
- ☒ **Attachment M: Air Pollution Control Device Sheet(s)**
- ☒ **Attachment N: Supporting Emissions Calculations**
- ☐ **Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans**
- ☒ **Attachment P: Public Notice**
- ☐ **Attachment Q: Business Confidential Claims**
- ☐ **Attachment R: Authority Forms**
- ☐ **Attachment S: Title V Permit Revision Information**
- ☒ **Application Fee**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ ***Forward 1 copy of the application to the Title V Permitting Group and:***
- ☐ ***For Title V Administrative Amendments:***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit,***
- ☐ ***For Title V Minor Modifications:***
  - ☐ ***Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit.***
- ☐ ***For Title V Significant Modifications processed in parallel with NSR Permit revision:***
  - ☐ ***NSR permit writer should notify a Title V permit writer of draft permit,***
  - ☐ ***Public notice should reference both 45CSR13 and Title V permits,***
  - ☐ ***EPA has 45 day review period of a draft permit.***

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

ATTACHMENT A
Business Certificate

State of West Virginia

Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

SUMMIT MIDSTREAM PARTNERS, LLC

Control Number: 9A107

a limited liability company, organized under the laws of the State of Delaware

has filed its "Application for Certificate of Authority" in my office according to the provisions of West Virginia Code §31B-10-1002. I hereby declare the organization to be registered as a foreign limited liability company from its effective date of June 21, 2013, until a certificate of cancellation is filed with our office.

Therefore, I hereby issue this

CERTIFICATE OF AUTHORITY OF A FOREIGN LIMITED LIABILITY COMPANY

to the limited liability company authorizing it to transact business in West Virginia

Given under my hand and the Great Seal of the State of West Virginia on this day of June 21, 2013

Natalie E Tennant

Secretary of State

State of West Virginia

Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

MOUNTAINEER MIDSTREAM COMPANY, LLC

Control Number: 9A0PN

a limited liability company, organized under the laws of the State of Delaware

has filed its "Application for Certificate of Authority" in my office according to the provisions of West Virginia Code §31B-10-1002. I hereby declare the organization to be registered as a foreign limited liability company from its effective date of May 31, 2013, until a certificate of cancellation is filed with our office.

Therefore, I hereby issue this

CERTIFICATE OF AUTHORITY OF A FOREIGN LIMITED LIABILITY COMPANY

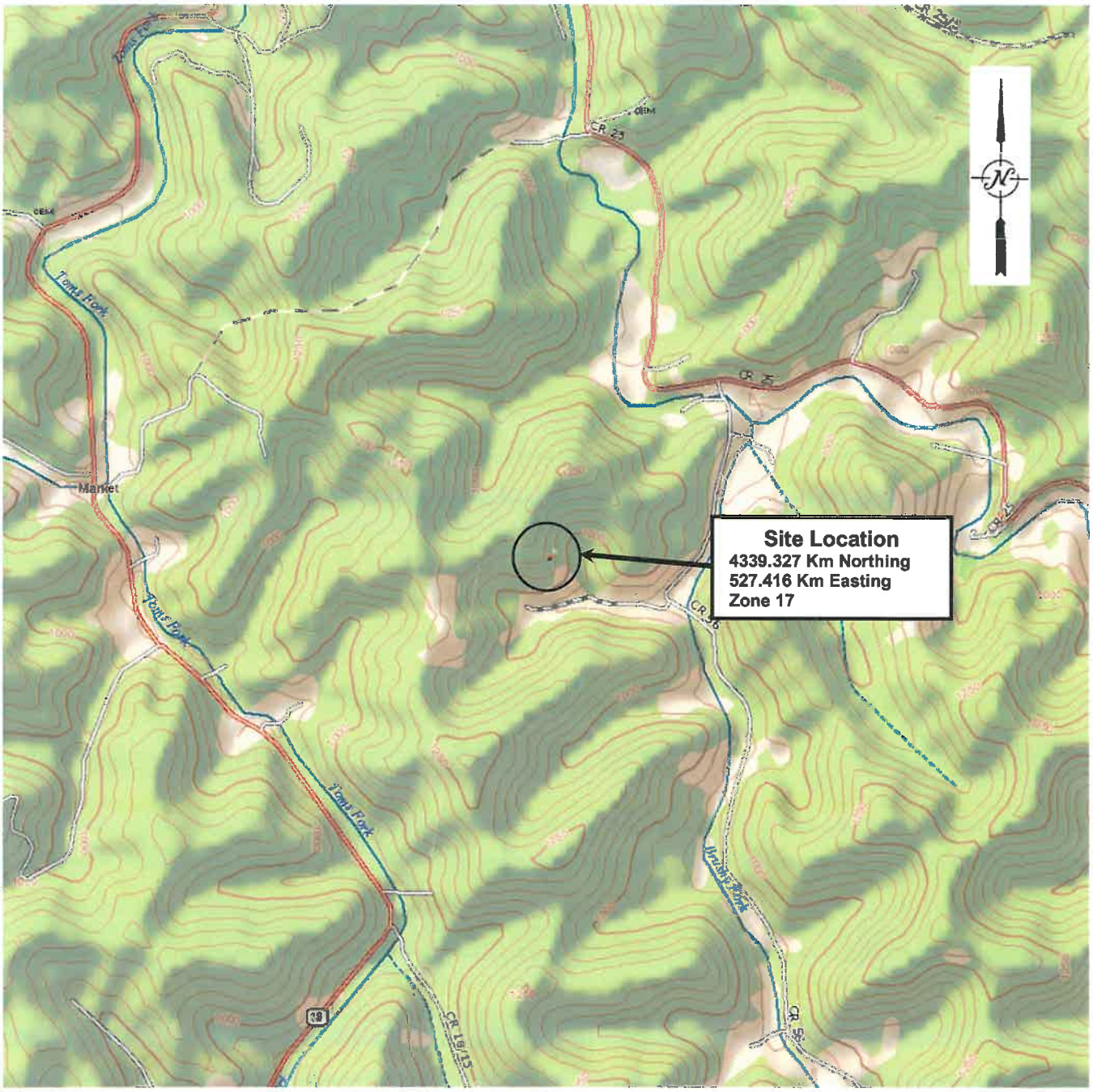
to the limited liability company authorizing it to transact business in West Virginia

Given under my hand and the Great Seal of the State of West Virginia on this day of May 31, 2013

Natalie E. Tennant

Secretary of State

ATTACHMENT B
Map(s)



Reference:
XMap® 6 © DeLorme, Yarmouth, Me 04096
Source Data: Delorme North America
Topographic Data 2011
USGS Quadrangle
New Milton, WV

Vicinity Map

Scale 1" = 2000'

MSES Consultants, Inc.
Clarksburg, West Virginia

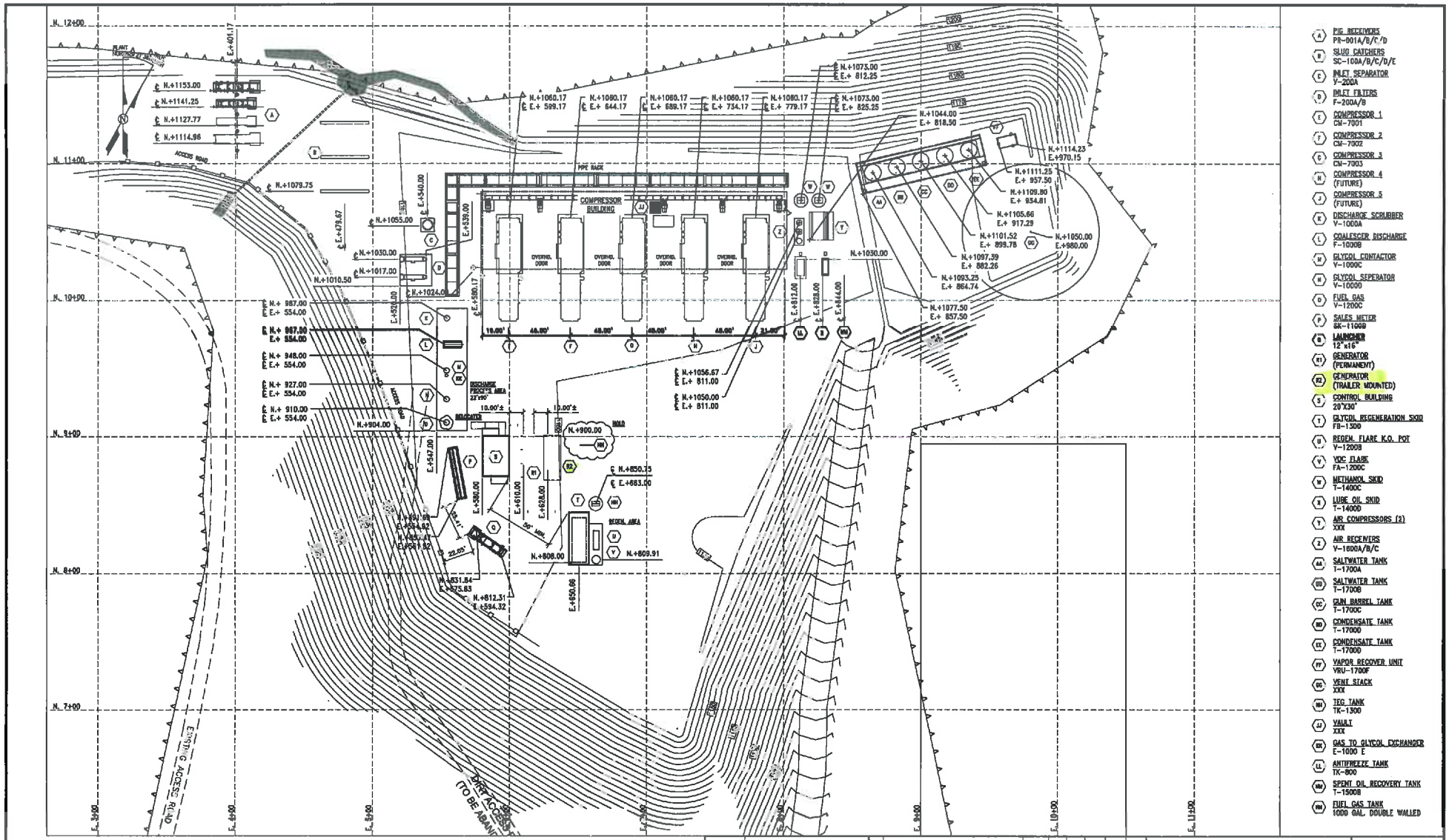
Summit Midstream Partners, LLC

Midpoint Compressor Station

Project No. 14-162

Attachment B
Air Permit Application

ATTACHMENT E
Plot Plan



CDMG
Southpointe Industrial Park
150 Technology Drive
Canonsburg, Pennsylvania 15317
CLIENT NO.
CDMG NO. 111247-01

NO.	REVISION-DESCRIPTION	DATE	DRAWN	CHK'D	ENG APP'D	PROCESS APP'D	DIRECTOR APP'D
0	ISSUED FOR CONSTRUCTION		BHJ	TLH	RP		

REFERENCE

MARKWEST
MarkWest Energy Partners, L.P.

MIDPOINT COMPRESSOR STATION
GENERAL ARRANGEMENT
OVERALL SITE PLAN
DOODRIDGE COUNTY MIDPOINT WEST VIRGINIA

APE		
DRAWN	TLH	DATE 12/19/11
CHK'D	RP	DATE 12/19/11
ENG APP'D		DATE
PROJ ENG APP'D		DATE
OPERATIONS APP'D		DATE
SCALE	1"=30'	DWG SIZE ANSI D 24"x36"
DRAWING NO.	MT-C-4001	REV NO. 0

ATTACHMENT I
Emission Units Table

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
DH-001	DH-001	TEG Dehydration Unit	2012/2014	120 MMscf/day	Modified 12/2014	Flare
FL-991	FL-991	Flare	2012/2014	7.00 mmBtu/hr	Modified 12/2014	NA

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

ATTACHMENT J
Emission Points Data Summary Sheet

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
DH-001	Horizontal Stack	DH-001	TEG Dehy Unit	FL-991	Flare	N/A	N/A	VOC Benzene Toluene Ethylbenzene	84.20 1.99 10.78 0.57	368.78 8.72 47.20 2.49	5.09 0.10 0.55 0.03	22.27 0.45 2.42 0.13	Gas/Vapor	Gly Calc	
								Xylene n-Hexane	9.29 3.13	40.71 13.71	0.47 0.22	2.06 0.94			
FL-991	Horizontal Stack	FL-991	Flare	N/A	N/A	N/A	N/A	NOx CO	0.75 4.07	3.27 17.82	0.75 4.07	3.27 17.82	Gas/Vapor	AP-42 Emission Factors	
								Note: A 35% buffer was included to the emissions to account for potential changes in gas composition.							

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data								
Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (^{0}F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
FL-991	6.0	857	7.0 mmbtu/hr	10	1,102	20.0	4339327	527416
DH-001	Unknown	212	149 scfm	Unknown	1,102	Unknown	4339327	527416

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

ATTACHMENT L
Emission Unit Data Sheet(s)

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): **DH-001**

1. Name or type and model of proposed affected source:

   TEG Dehydration Unit , 120 MMscfd

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Emissions provided in Question 8. Unit will operate a maximum of 8,760 per year.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   Emissions provided in Question 8.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Emissions from the dehydration of natural gas using tri-ethylene glycol and air pollution control device (Flare).

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

N/A

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

Sulfur and ash are insignificant

(c) Theoretical combustion air requirement (ACF/unit of fuel):

unknown @ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

N/A

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

N/A

(g) Proposed maximum design heat input: **N/A** $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day **24**	Days/Week **7**	Weeks/Year **52**

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:			
@		°F and	psia
a.	NO_X	lb/hr	grains/ACF
b.	SO_2	lb/hr	grains/ACF
c.	CO	lb/hr	grains/ACF
d.	PM_{10}	lb/hr	grains/ACF
e.	Hydrocarbons	lb/hr	grains/ACF
f.	VOCs	**84.20** lb/hr	grains/ACF
g.	Pb	lb/hr	grains/ACF
h.	Specify other(s)		
	Total HAPs	**25.87** lb/hr	grains/ACF
	Note: Speciated HAPs are presented in attachment J.	lb/hr	grains/ACF
	Note: A 35% percent buffer was included to the emissions to account for potential changes in gas composition.	lb/hr	grains/ACF
		lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Per Air Permit R13-2929B - the applicant shall monitor the wet natural gas fed to the dehydration system on a monthly basis.	Per Air Permit R13-2929B - The applicant will maintain and document the following: 1. records of testing conducted (GLYCalc and sampling - see below), 2. record of all PTE HAP calculations for the entire facility, and 3. wet natural gas throughput .
REPORTING	**TESTING**
As required by Air Permit R13-2929B, Section 7.5.1 - Submit Testing protocol, notification of testing, and testing results, as appropriate.	Per Air Permit R13-2929B - the applicant shall demonstrate compliance with the HAP emission threshold using GLYCalc Version 3.0 or higher. The applicant shall sampling in accordance with GPA Method 2166 and analyze the samples utilizing the extended GPA Method 2286 as specified in teh GRI-GLYCalc V4 Technical Reference User Manual and Handbook.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

The following maintenance procedures are performed for the dehydration unit:
- The particulate filters are changed according to the differential psi.
- The charcoal canister filters are changed twice per year.

Attachment M
Air Pollution Control Device Sheet
(FLARE SYSTEM)

Control Device ID No. (must match Emission Units Table):

Equipment Information

1. Manufacturer: Superior Fabrication, Inc.

   Model No.

2. Method: ☐ Elevated flare ☒ Ground flare ☐ Other
   Describe

3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.

4. Method of system used:
   ☐ Steam-assisted ☒ Air-assisted ☐ Pressure-assisted ☐ Non-assisted

5. Maximum capacity of flare:
   195 scf/min
   11,667 scf/hr

6. Dimensions of stack:
   Diameter 6.0 ft.
   Height 20 ft.

7. Estimated combustion efficiency:
   (Waste gas destruction efficiency)
   Estimated: 95 %
   Minimum guaranteed: 98 %

8. Fuel used in burners:
   ☒ Natural Gas
   ☐ Fuel Oil, Number
   ☐ Other, Specify:

9. Number of burners: 1
   Rating: 16,100 BTU/hr

10. Will preheat be used? ☐ Yes ☒ No

11. Describe method of controlling flame:

12. Flare height: 20.0 ft

13. Flare tip inside diameter: 6.0 ft

14. Natural gas flow rate to flare pilot flame per pilot light: 0.23 scf/min
    14 scf/hr

15. Number of pilot lights: 1
    Total 16,100 BTU/hr

16. Will automatic re-ignition be used?
    ☒ Yes ☐ No

17. If automatic re-ignition will be used, describe the method:

    The flare monitors the pilot via thermocouple. Shouldthe thermocouple sense a loss of flare, the flame front generator panel will go to a re-light cycle and send a common trouble alarm to the pant DCS.

18. Is pilot flame equipped with a monitor? ☒ Yes ☐ No
    If yes, what type? ☒ Thermocouple ☐ Infra-Red
    ☐ Ultra Violet ☐ Camera with monitoring control room
    ☐ Other, Describe:

19. Hours of unit operation per year: 8760 hours/yr

Steam Injection

20. Will steam injection be used? ☐ Yes ☒ No	21. Steam pressure PSIG Minimum Expected: Design Maximum:
22. Total Steam flow rate: LB/hr	23. Temperature: °F
24. Velocity ft/sec	25. Number of jet streams
26. Diameter of steam jets: in	27. Design basis for steam injected: LB steam/LB hydrocarbon
28. How will steam flow be controlled if steam injection is used?	

Characteristics of the Waste Gas Stream to be Burned

29.

Name	Quantity Grains of H_2S/100 ft^3	Quantity (LB/hr, ft^3/hr, etc)	Source of Material
Regenerator Overheads		5,900 scf/hr	TEG Dehy

30. Estimate total combustible to flare: 5,900 scf/hr LB/hr or ACF/hr
(Maximum mass flow rate of waste gas) scfm

31. Estimated total flow rate to flare including materials to be burned, carrier gases, auxiliary fuel, etc.:
LB/hr or ACF/hr

32. Give composition of carrier gases: Purge gas rate: 3000 scfh @ 19 MW

33. Temperature of emission stream: 212 °F Heating value of emission stream: 1375 BTU/ft^3 Mean molecular weight of emission stream: MW = 22.30 lb/lb-mole	34. Identify and describe all auxiliary fuels to be burned. Natural Gas 1,124 BTU/scf BTU/scf BTU/scf BTU/scf
35. Temperature of flare gas: 1000 °F	36. Flare gas flow rate: 9,350 scf/min
37. Flare gas heat content: BTU/ft^3	38. Flare gas exit velocity: 10 ft/s
39. Maximum rate during emergency for one major piece of equipment or process unit: scf/min	
40. Maximum rate during emergency for one major piece of equipment or process unit: BTU/min	

41. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):
The Dehydration unit will regenerate glycol and send the water vapor and hydrocarbons to the flare.

42. Describe the collection material disposal system:

43. Have you included ***Flare Control Device*** in the Emissions Points Data Summary Sheet? Yes

44. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING:

Per Air Permit R13-2929B - the applicant shall monitor the presence or absence of a flare pilot flame using a thermocouple or any other equivalent device.

RECORDKEEPING:

Per Air Permit R13-2929B - The applicant will maintain and document the following:
- the times and duration in which the pilot flame was absent
- flare design evaluation
- testing
- on-going monitoring requirements
- visible emission opacity tests
- emission calculations

REPORTING:

As required by Air Permit R13-2929B, Section 7.5.1
- Submit Testing protocol, notification of testing, and testing results, as appropriate.
- Any deviations from flare design or visible emission requirements.

TESTING:

Per Air Permit R13-2929B - the applicant shall conduct a Method 22 opacity test for at least two hours within one (1) year of permit issuance.
- The Applicant may also be required to conduct a flare compliance assessment by the director in accordance with Test Method 18 (organics) and Test Method 2, 2A, 2C, or 2D in Appendix A, 40 CFR part 60.

MONITORING: Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

TESTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

45. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
98% VOC

46. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
98% VOC

47. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

ATTACHMENT N
Supporting Emissions Calculations

Midpoint Permitted Emission Limits

Emission Source	Description	Emissions (Controlled) tpy						
		CO	NOx	VOC	Formaldehyde	PM-10	SO2	Total HAPs[1]
CM-1001	Caterpillar G3608LE Compressor Engine	3.2	11.44	7.78	0.69			
CM-1002	Caterpillar G3608LE Compressor Engine	3.2	11.44	7.78	0.69			
CM-1003	Caterpillar G3608LE Compressor Engine	3.2	11.44	7.78	0.69			
CM-1004	Caterpillar G3608LE Compressor Engine	3.2	11.44	7.78	0.69			
CM-1005	Caterpillar G3608LE Compressor Engine	3.2	11.44	7.78	0.69			
CM_1006	Caterpillar G3608LE Compressor Engine	3.2	11.44	7.78	0.69			
G-1002	Caterpillar C15 ATAAC Emergency Generator Engine	0.33	7.69	0.09	0.01		2.75	
GE-1	Caterpillar G3516LE	13.1	10.48	3.14	1.92			
Original DH-001	TEG Dehydration unit (120 mmscf/day)			8.98				1.37
RB-001	Reboiler (Dehydration Unit)	0.61	0.75	0.04		0.06		
FL-991[3]	Flare (Dehydration Unit)	17.82	3.27			0.20	0.02	
Fugitive Emissions[2]	Fugitive Emissions			1.81				0.153
T01-T05[2]	Condensate/Water Tanks			8.8				
Updated DH-001[3]	TEG Dehydration unit (120 mmscf/day)			22.27				6.03
	Total proposed Emissions[4]	51.06	90.83	81.02	6.07	0.26	2.77	6.03
	Total Title V Emissions[5]	51.06	90.83	82.83	6.07	0.26	2.77	6.18

Notes:

[1]Total HAPs from application (does not include Formaldehyde)

[2]From original application

[3]Same dehy unit and flare, emissions have been updated to reflect change in gas composition. A 35% buffer is included to account for changes in gas composition in the future.

[4] Total proposed Emissions = Total - DH-001 (old Dehy) + New DH-001 - Fugitive Emissions

[5]Total Title V Emissions = Total proposed emissions + Fugitives

Net Change:

Emission Source	Description	Emissions (Controlled)							
		VOC (pph)	VOC (ppd)	VOC (tpy)	Total HAPs (pph)	Total HAPs (tpy)	Benzene (pph)	Benzene (ppd)	Benzene (tpy)
Original DH-001	TEG Dehydration unit (120 mmscf/day)	2.05	49.2	8.98	0.32	1.37	0.03	0.72	0.15
Updated DH-001[3]	TEG Dehydration unit (120 mmscf/day)	5.09	122.05	22.27	1.38	6.03	0.10	2.47	0.45
	Net Change[6]	3.04	72.85	13.29	1.06	4.66	0.07	1.75	0.30

Emission Source	Description	Emissions (Controlled)					
		NOx (pph)	NOx (ppd)	NOx (tpy)	CO (pph)	CO (ppd)	CO (tpy)
Original FL-991	Flare (Dehydration Unit)	0.58	13.92	2.56	0.49	11.76	2.15
Updated FL-991[3]	Flare (Dehydration Unit)	0.75	97.64	3.27	4.07	97.64	17.82
	Net Change[6]	0.17	83.72	0.71	3.58	85.88	15.67

[6]For the regulated air pollutants, the net change is less than 10 tpy AND 6 pph OR 144 ppd. For aggregated HAPs, the net change is less than 2 pph or 5 tpy; therefore, this modification request is an Administrative Update (Class II). The net change for NOx and CO is driven by a change in emission factors used and not a result of an operational change.

GRI-GLYCalc VERSION 4.0 - SUMMARY OF INPUT VALUES

Case Name: 2014annual - Midpoint - DH-001
File Name: N:\deptHSE\Environmental\Facilities - Mountaineer\WV_MidPoint CS\Record Keeping\Monthly\GLYCalc\DH-001\2014annual - Midpoint GLYCalc - DH-001_Rev1.ddf
Date: January 23, 2015

DESCRIPTION:

Description: Summit Midstream Partners - Midpoint CS
120mmscf/day TEG Dehydration Unit
wet gas sample: 12.09.2014
Electric Pump

Annual Hours of Operation: 8760.0 hours/yr

WET GAS:

Temperature: 90.00 deg. F
Pressure: 1041.00 psig
Wet Gas Water Content: Saturated

Component	Conc. (vol %)
Carbon Dioxide	0.0005
Nitrogen	0.0005
Methane	77.3092
Ethane	13.2545
Propane	3.8163
Isobutane	0.5609
n-Butane	1.0310
Isopentane	0.4448
n-Pentane	0.4498
n-Hexane	0.4630
Cyclohexane	0.0483
Other Hexanes	0.6399
Heptanes	0.8219
Methylcyclohexane	0.1218
2,2,4-Trimethylpentane	0.0142
Benzene	0.0084
Toluene	0.0311
Ethylbenzene	0.0013
Xylenes	0.0147
C8+ Heavies	0.9679

DRY GAS:

Flow Rate: 120.0 MMSCF/day
Water Content: 5.0 lbs. H2O/MMSCF

LEAN GLYCOL:

Glycol Type: TEG
Water Content: 1.5 wt% H2O
Flow Rate: 4.8 gpm

PUMP:

Glycol Pump Type: Electric/Pneumatic

FLASH TANK:

Flash Control: Combustion device
Flash Control Efficiency: 95.00 %
Temperature: 170.0 deg. F
Pressure: 65.0 psig

STRIPPING GAS:

Source of Gas: Dry Gas
Gas Flow Rate: 20.000 scfm

REGENERATOR OVERHEADS CONTROL DEVICE:

Control Device: Combustion Device
Destruction Efficiency: 95.0 %
Excess Oxygen: 30.0 %
Ambient Air Temperature: 70.0 deg. F

GRI-GLYCalc VERSION 4.0 - EMISSIONS SUMMARY

Case Name: 2014annual - Midpoint - DH-001
File Name: N:\deptHSE\Environmental\Facilities - Mountaineer\WV_MidPoint CS\Record Keeping\Monthly\GLYCalc\DH-001\2014annual - Midpoint GLYCalc - DH-001_Rev1.ddf
Date: January 23, 2015

CONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	1.9812	47.549	8.6777
Ethane	0.6721	16.130	2.9438
Propane	0.3153	7.567	1.3810
Isobutane	0.0653	1.567	0.2861
n-Butane	0.1323	3.176	0.5796
Isopentane	0.0686	1.647	0.3006
n-Pentane	0.0767	1.840	0.3358
n-Hexane	0.1159	2.783	0.5078
Cyclohexane	0.0422	1.013	0.1848
Other Hexanes	0.1386	3.326	0.6070
Heptanes	0.3346	8.031	1.4656
Methylcyclohexane	0.1193	2.863	0.5224
2,2,4-Trimethylpentane	0.0038	0.092	0.0168
Benzene	0.0738	1.770	0.3231
Toluene	0.3991	9.578	1.7480
Ethylbenzene	0.0211	0.506	0.0924
Xylenes	0.3442	8.262	1.5078
C8+ Heavies	0.8675	20.820	3.7996
Total Emissions	5.7717	138.521	25.2801
Total Hydrocarbon Emissions	5.7717	138.521	25.2801
Total VOC Emissions	3.1184	74.841	13.6585
Total HAP Emissions	0.9580	22.991	4.1959
Total BTEX Emissions	0.8382	20.117	3.6713

UNCONTROLLED REGENERATOR EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	39.6244	950.986	173.5549
Ethane	13.4420	322.608	58.8760
Propane	6.3060	151.343	27.6201
Isobutane	1.3062	31.349	5.7212
n-Butane	2.6464	63.513	11.5911
Isopentane	1.3728	32.948	6.0130
n-Pentane	1.5334	36.801	6.7161
n-Hexane	2.3189	55.654	10.1569
Cyclohexane	0.8438	20.250	3.6957
Other Hexanes	2.7717	66.521	12.1401
Heptanes	6.6924	160.618	29.3128
Methylcyclohexane	2.3856	57.254	10.4489
2,2,4-Trimethylpentane	0.0767	1.840	0.3357
Benzene	1.4754	35.409	6.4622
Toluene	7.9819	191.566	34.9609
Ethylbenzene	0.4217	10.121	1.8470
Xylenes	6.8849	165.238	30.1560
C8+ Heavies	17.3499	416.397	75.9924

Total Emissions	115.4340	2770.416	505.6010
Total Hydrocarbon Emissions	115.4340	2770.416	505.6010
Total VOC Emissions	62.3676	1496.823	273.1701
Total HAP Emissions	19.1595	459.829	83.9187
Total BTEX Emissions	16.7639	402.335	73.4261

FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	0.3599	8.638	1.5765
Ethane	0.2620	6.289	1.1477
Propane	0.1323	3.176	0.5796
Isobutane	0.0280	0.672	0.1227
n-Butane	0.0610	1.463	0.2671
Isopentane	0.0276	0.663	0.1211
n-Pentane	0.0328	0.788	0.1438
n-Hexane	0.0438	1.050	0.1917
Cyclohexane	0.0085	0.204	0.0373
Other Hexanes	0.0542	1.302	0.2376
Heptanes	0.0978	2.347	0.4283
Methylcyclohexane	0.0204	0.490	0.0895
2,2,4-Trimethylpentane	0.0011	0.027	0.0050
Benzene	0.0026	0.062	0.0112
Toluene	0.0103	0.247	0.0451
Ethylbenzene	0.0004	0.009	0.0016
Xylenes	0.0040	0.096	0.0176
C8+ Heavies	0.1237	2.968	0.5418
Total Emissions	1.2705	30.493	5.5649
Total Hydrocarbon Emissions	1.2705	30.493	5.5649
Total VOC Emissions	0.6486	15.566	2.8408
Total HAP Emissions	0.0621	1.491	0.2722
Total BTEX Emissions	0.0172	0.414	0.0755

FLASH TANK OFF GAS

Component	lbs/hr	lbs/day	tons/yr
Methane	7.1985	172.764	31.5294
Ethane	5.2406	125.774	22.9538
Propane	2.6466	63.519	11.5922
Isobutane	0.5603	13.446	2.4539
n-Butane	1.2194	29.266	5.3410
Isopentane	0.5529	13.270	2.4217
n-Pentane	0.6566	15.759	2.8760
n-Hexane	0.8752	21.006	3.8336
Cyclohexane	0.1702	4.084	0.7454
Other Hexanes	1.0849	26.037	4.7518
Heptanes	1.9556	46.936	8.5657
Methylcyclohexane	0.4085	9.803	1.7891
2,2,4-Trimethylpentane	0.0227	0.546	0.0996
Benzene	0.0513	1.232	0.2248
Toluene	0.2061	4.946	0.9026
Ethylbenzene	0.0071	0.171	0.0312
Xylenes	0.0802	1.925	0.3513
C8+ Heavies	2.4737	59.370	10.8350

Total Emissions	25.4105	609.853	111.2982
Total Hydrocarbon Emissions	25.4105	609.853	111.2982
Total VOC Emissions	12.9715	311.315	56.8150
Total HAP Emissions	1.2427	29.825	5.4431
Total BTEX Emissions	0.3447	8.273	1.5099

COMBINED REGENERATOR VENT/FLASH GAS EMISSIONS

Component	lbs/hr	lbs/day	tons/yr
Methane	2.3411	56.187	10.2542
Ethane	0.9341	22.419	4.0915
Propane	0.4476	10.743	1.9606
Isobutane	0.0933	2.240	0.4088
n-Butane	0.1933	4.639	0.8466
Isopentane	0.0963	2.311	0.4217
n-Pentane	0.1095	2.628	0.4796
n-Hexane	0.1597	3.833	0.6995
Cyclohexane	0.0507	1.217	0.2221
Other Hexanes	0.1928	4.628	0.8446
Heptanes	0.4324	10.378	1.8939
Methylcyclohexane	0.1397	3.353	0.6119
2,2,4-Trimethylpentane	0.0050	0.119	0.0218
Benzene	0.0763	1.832	0.3344
Toluene	0.4094	9.826	1.7932
Ethylbenzene	0.0214	0.515	0.0939
Xylenes	0.3483	8.358	1.5254
C8+ Heavies	0.9912	23.788	4.3414
Total Emissions	7.0422	169.013	30.8450
Total Hydrocarbon Emissions	7.0422	169.013	30.8450
Total VOC Emissions	3.7670	90.407	16.4993
Total HAP Emissions	1.0201	24.483	4.4681
Total BTEX Emissions	0.8554	20.530	3.7468

Corrosion Products Division - MSES consultants, inc.
609 West Main Street ■ P. O. Drawer 190
Clarksburg, West Virginia 26301
304-624-9700 Main ▪ 304-622-0981 Fax ▪ E-mail cpd@msesinc.com

FIELD COLLECTION REPORT
GAS SAMPLE

Company Name Summit Midstream

Sample Name Mid Point Station

Sample Number S-1-12-9-14

Sample Date 12-9-14

Sample Time 10:02 A

Sampled By JNK

SAMPLE COLLECTED FROM:

☐ Well _____

☐ Pipeline _____

☐ Storage _____

☐ Fuel Gas _____

☐ Other _____

SAMPLE INFORMATION:

Sample Description TEG Inlet Gas

Sample Temperature _____ Sample Pressure 1100 lbs

Sample Odor _____ Purge Time 5 cycles

Sample Source _____

GAS ANALYSIS PROGRAM REQUESTED:

Company to Specify: _____

GPA-2286

LOCATION SKETCH

Sample Location: _____

Sampler Remarks Bottle 022

WEATHER:

Air Temperature _____

Conditions Overcast

CONTACT INFORMATION:

Name: _____

Address: _____

Telephone: _____ Fax _____

E-mail: _____

DEC 09 2014

JBL

MSES consultants, inc.
CORROSION PRODUCTS DIVISION

PO Drawer 190 - Clarksburg, WV 26302-0190
Telephone: 304.624.9700 - Fax: 304.622.0981
Website: www.msesinc.com/analysis

Extended Fractional Analysis

Summit Midstream

Analysis No:	1
Analysis Date:	12/12/2014
MSES Project No.:	14-040

SAMPLE COLLECTION INFORMATION

Client:	Summit Midstream	Sample Date:	12/9/2014
Sample Location:	Midpoint Station TEG	Sample Time:	10:02 AM
Sample Collection Source:	TEG Inlet Gas	Collected By:	JNR
MSES Sample Number:	S-1-12-9-14	Sample Pressure:	1100
Date Received at Lab:	12/9/2014	Sample Temp. (°F):	N/A
Collection Remarks:	N/A	Sample Container Type:	Cylinder
		MSES/CPD ID#	001
		Client ID #:	N/A

ANALYSIS REPORT

FRACTIONAL ANALYSIS

COMPONENTS	MOLE PERCENT	GPM
OXYGEN	<0.0001	
NITROGEN	0.0005	
CARBON DIOXIDE	0.0005	
METHANE	77.3092	
ETHANE	13.2545	3.54
PROPANE	3.8163	1.05
I-BUTANE	0.5609	0.18
N-BUTANE	1.0310	0.32
I-PENTANE	0.4448	0.16
N-PENTANE	0.4498	0.16
CYCLOPENTANE	<0.0001	0.00
I-HEXANES	0.6399	0.26
N-HEXANE	0.4630	0.19
CYCLOHEXANE	0.0483	0.02
I-HEPTANES	0.2058	0.14
N-HEPTANE	0.6161	0.28
METHYLCYCLOHEXANE	0.1218	0.00
2,2,4-TRIMETHYLPENTANE	0.0142	0.00
BENZENE	0.0084	0.00
TOLUENE	0.0311	0.01
ETHYLBENZENE	0.0013	0.00
XYLENE	0.0147	0.01
OCTANES+	0.9679	0.51
TOTAL	100.0000	6.84

ANALYTICAL RESULTS

REAL VALUES ARE CALCULATED AT 14.696 PSI AND 60° F

BTU/SCF (DRY):	1375.00
BTU/SCF (WET):	1361.31
SUM. FACTOR (DRY):	0.9955
SUM. FACTOR (WET):	0.9950
ETHANE + GPM:	6.8690
REAL DENSITY:	0.7898

COMMENTS

(1) Extended analysis and reporting performed following procedures outlined in GPA 2286-95: Tentative Method of Extended Analysis for Natural Gas and Similar Mixtures by Temperature Programmed Gas Chromatography

(2) Physical properties and values used in calculations were acquired from GPA 2145-09: Table of Physical properties for Hydrocarbons and Other Compounds of Interest to the Natural Gas Industry

(3) Limit of Detection = 0.0001 Mole Percent

Midpoint Compressor Station
Potential to Emit:
Flare (FL-991)

Inputs

Parameters	Units	Value
Manufacturer	--	Superior Fabrication
Year Installed	--	2012
Operating Hours	hrs	8760
Flare Heat Input Rating	MMBtu/hr	7.00
Annual Fuel Use	mmscf/yr	51.89
Fuel consumption	mmscf/hr	0.0059
Fuel HHV	Btu/scf	1375
CF (lbs to tons)	ton/lbs	0.0005

Pollutant Emissions

Pollutant	Emission Factors[e,f,g]		Potential Emissions[d]	
	Value	Units	lb/hr	tons/year
NOx[a,c]	0.068	lb/mmbtu	0.75	3.27
CO[a,c]	0.37	lb/mmbtu	4.07	17.82
SO_2[b,c]	0.6	lb/MMscf	0.005	0.02
PM Total[b,c]	7.6	lb/MMscf	0.061	0.27
PM Condensate[b,c]	1.9	lb/MMscf	0.015	0.07
PM_{10} (Filterable)[b,c]	5.7	lb/MMscf	0.046	0.20
$PM_{2.5}$ (Filterable)[b,c]	5.7	lb/MMscf	0.046	0.20

Notes

[a]Emission Rate (lb/hr) = Emission Factor (lb/mmbtu)*Fuel HHV (Btu/scf)*Fuel Consumption (mmscf/hr)

[b]Emission Rate (lb/hr) = Fuel Consumption (MMscf/hr)*Emission Factor (lb/MMscf)

[c]Annual Emissions (tons/yr) = Emission Rate (lb/hr)*Operating Hours (hr/yr)* CF (ton/lb)

[d]A 35% buffer has been included to account for variations in throughput to the flare

[e]Emission Factors for NOx and CO are from AP-42, Table 13.5-1 Emissions Factors for Flare Operations

[F]Emission Factors for the remaining pollutants are from AP-42, Table 1.4-1 Natural Gas Combustion

[g]Emissions factors for CO and NOx have been updated from the original application which used emission factors for natural gas combustion only. As a result in the change of emission factors, the potential emissions have increased - this does not reflect an operational change in the flare.

ATTACHMENT P
Public Notice

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Summit Midstream Partners, LLC d/b/a Mountaineer Midstream Company, LLC, has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for an after-the-fact Class II Administrative Update Application for an increase in emissions for the permitted TEG Dehydration Unit at the Midpoint Compressor Station located off Brushy Fort Road, near New Milton, in Doddridge County, West Virginia. The latitude and longitude coordinates are: 39.20277°N and 80.68248°W.

The applicant estimates a net change in the potential to discharge for the following regulated air pollutants will be:

Volatile Organic Compounds (VOC): +13.29 tpy

Hazardous Organic Compounds (HAPs): +4.66 tpy

Benzene: +0.30 tpy

Toluene: +1.88 tpy

Xylenes: +1.76 tpy

n-Hexane: +0.56 tpy

Nitrogen Oxides: +0.71 tpy

Carbon Monoxide: +15.57 tpy

This change in emissions started in December 2014. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the 12th of February, 2015.

By: Megan C. Davis

Megan C. Davis
Vice President of Regulatory and Senior Counsel
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Mountaineer Midstream Company, LLC
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