Mullins, Robert A <robert.a.mullins@wv.gov>

Fwd: WV Draft Permit R13-2914L for MarkWest Liberty Midstream and Resources, LLC; Sherwood Gas Plant

1 message

McCumbers, Carrie <carrie.mccumbers@wv.gov> Mon, Jun 17, 2024 at 4:48 PM
To: "Robert.A.Mullins@wv.gov" <robert.a.mullins@wv.gov>

---------- Forwarded message ---------
From: **Mink, Stephanie R** <stephanie.r.mink@wv.gov>
Date: Mon, Jun 17, 2024 at 2:55 PM
Subject: WV Draft Permit R13-2914L for MarkWest Liberty Midstream and Resources, LLC; Sherwood Gas Plant
To: Supplee, Gwendolyn <supplee.gwendolyn@epa.gov>, Whapham, Joseph <Whapham.Joseph@epa.gov>, Uhl, William F. <wfuhl@marathonpetroleum.com>, Juarez, Allie M. <ajuarez@marathonpetroleum.com>
Cc: Crowder, Laura M <Laura.M.Crowder@wv.gov>, McKeone, Beverly D <Beverly.D.Mckeone@wv.gov>, McCumbers, Carrie <Carrie.McCumbers@wv.gov>, Nicole D Ernest <nicole.d.ernest@wv.gov>, Roy F Kees <roy.f.kees@wv.gov>, Johnson, Rebecca H <Rebecca.H.Johnson@wv.gov>, James F Jarrett <james.f.jarrett@wv.gov>

Please find attached the Draft Permit R13-2914L, Engineering Evaluation and Public Notice for MarkWest Liberty Midstream and Resources, LLC; Sherwood Gas Plant located in Doddridge County.

The public notice will be published in *The Doddridge Independent* on Friday, June 21, 2024 and the thirty day comment period will end on Monday, July 22, 2024.

Should you have any questions or comments, please contact the permit writer, Roy Kees, at 304-926-0499 ext. 41269 or Roy.F.Kees@wv.gov.

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

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3 attachments

017-00034_PERM_13-2914L_Draft.pdf
688K

017-00034_EVAL_13-2914L.pdf
221K

R13-2914L_Notice.pdf
14K

Mullins, Robert A <robert.a.mullins@wv.gov>

Completeness Determination, Sherwood Gas Plant, Application No.: R30-01700034-2024(SM01)

1 message

Mullins, Robert A <robert.a.mullins@wv.gov> Thu, May 30, 2024 at 11:18 AM
To: WFUhl@marathonpetroleum.com, "Juarez, Allie M." <AJuarez@marathonpetroleum.com>

Your combined application for an NSR permit and a Title V significant permit modification for the above referenced facility was received by this Division on May 9, 2024. After review of said application, it has been determined that the Title V significant permit modification is **incomplete**. Pursuant to Section 4.1.b of 45CSR30, a complete application must contain sufficient information for the Secretary to evaluate the subject source and its application and to determine all applicable requirements. Since the changes requested under the Title V significant permit modification are dependent upon the applicable requirements which will be included in the approved NSR permit currently under review, it is not possible for the Secretary to determine all applicable requirements. Since all other elements of the Title V significant permit modification were included, this application shall automatically be deemed to be complete on the date the NSR permit is approved.

In accordance with Section 4.1.a.2 of 45CSR30, an applicant shall file a complete application to obtain a Title V significant permit modification within twelve (12) months after commencing operation. Where an existing Title V operating permit would prohibit such construction or change in operation, the source must obtain a permit revision before commencing operation. If the applicant submitted a timely and complete application and is not required under Section 4.1.a.2 of 45CSR30 to obtain a permit revision before commencing operation, the source's ability to operate without a Title V significant permit modification shall be in effect from the date of startup of the proposed changes until the final permit modification is issued. If during the processing of this application it is determined that additional information is necessary to evaluate or take final action on this application, a request for such information will be made in writing with a reasonable deadline for a response. If the applicant fails to submit any additional information identified as being needed to process the application by the deadline specified in writing, this protection to operate without a Title V significant permit modification shall cease to apply.

The applicant has the duty to supplement or correct the application. An applicant who fails to submit any relevant facts or who has submitted incorrect information in any permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft significant permit modification.

This completeness determination applies only to the Title V significant permit modification. The NSR permit application will undergo a separate completeness review. Should you have any questions regarding this determination, please contact me.

Sincerely,

--

Robert Mullins

WV Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Phone: (304)926-0499 ext. 41286

WV DAQ Title V Permit Application Status for MarkWest Liberty Midstream & Resources, LLC; Sherwood Gas Plant

2 messages

Mink, Stephanie R <stephanie.r.mink@wv.gov> Fri, May 10, 2024 at 9:06 AM
To: "Uhl, William F." <wfuhl@marathonpetroleum.com>, "Juarez, Allie M." <ajuarez@marathonpetroleum.com>
Cc: Carrie McCumbers <carrie.mccumbers@wv.gov>, Robert A Mullins <robert.a.mullins@wv.gov>

RE: Application Status

MarkWest Liberty Midstream and Resources LLC

Sherwood Gas Plant

Facility ID No. 017-00034

Application No. R30-01700034-2023 (SM01)

Dear Mr. Uhl,

Your application for a Title V Significant Modification Permit for MarkWest Liberty Midstream and Resources LLC's Sherwood Gas Plant was received by this Division on May 9, 2024, and was assigned to Robert "R.A." Mullins.

Should you have any questions, please contact the assigned permit writer, Robert "R.A." Mullins, at 304-926-0499, extension 41286, or Robert.A.Mullins@wv.gov.

--

Stephanie Mink

Environmental Resources Associate

West Virginia Department of Environmental Protection

Division of Air Quality, Title V & NSR Permitting

601 57th Street SE

Charleston, WV 25304

Phone: 304-926-0499 x41281

McCumbers, Carrie <carrie.mccumbers@wv.gov> Mon, May 13, 2024 at 7:03 AM
To: stephanie.r.mink@wv.gov

Your message

To: McCumbers, Carrie
Subject: WV DAQ Title V Permit Application Status for MarkWest Liberty Midstream & Resources, LLC; Sherwood Gas Plant
Sent: 5/10/24, 9:06:07 AM EDT

was read on 5/13/24, 7:03:01 AM EDT

Mullins, Robert A <robert.a.mullins@wv.gov>

Re: MarkWest Liberty Midstream & Resources, LLC; Sherwood Gas Plant

1 message

McCumbers, Carrie <carrie.mccumbers@wv.gov> Thu, May 9, 2024 at 3:54 PM
To: Stephanie R Mink <stephanie.r.mink@wv.gov>
Cc: Roy F Kees <roy.f.kees@wv.gov>, Beverly D McKeone <beverly.d.mckeone@wv.gov>, "Robert.A.Mullins@wv.gov" <robert.a.mullins@wv.gov>

Stephanie,

Please assign this modification to RA as R30-01700034-2023 (SM01).

Thanks,
Carrie

On Thu, May 9, 2024 at 2:32 PM Air Quality Permitting, DEP <depairqualitypermitting@wv.gov> wrote:

> Stephanie, Please assign modification R13-2914L, 017-00034 from MarkWest Liberty Midstream, Sherwood Gas Plant to Roy Kees.
>
> Application fee is $1000. Need affidavit of publication.
>
> Carrie, Application includes Attachment S.
>
> Bev
> ---------- Forwarded message ---------
> From: **Juarez, Allie M.** <AJuarez@marathonpetroleum.com>
> Date: Thu, May 9, 2024 at 1:56 PM
> Subject: MarkWest Liberty Midstream & Resources, LLC; Sherwood Gas Plant
> To: DEP Air Quality Permitting <DEPAirQualityPermitting@wv.gov>
>
> Good afternoon,
>
> Please find attached the MarkWest Sherwood Gas Plant permit modification application.

Allie Juarez
Environmental Engineer
4600 J Barry Court, Suite 500
Canonsburg, PA 15317
Mobile: 412-815-8886
ajuarez@marathonpetroleum.com

MarkWest Liberty M&R, L.L.C.
1515 Arapahoe Street
Tower 1, Suite 1600
Denver, CO 80202-2137
(303) 290-8700
(303) 825-0920 Fax

Received
May 9, 2024
WV DEP/Div of Air Quality

May 7, 2024

Ms. Laura Crowder, Director
West Virginia Department of Environmental Protection
Division of Air Quality
Charleston, WV 25304

Re: MarkWest Liberty Midstream & Resources, L.L.C.
Sherwood Gas Plant
Application for Modification

Dear Ms. Crowder:

MarkWest Liberty Midstream & Resources, L.L.C. (MPLX) submits the enclosed application for a modification in accordance with the West Virginia Air Pollution Control Act and Title 45 Series 13 (45CSR13). The application is being submitted to propose an increase to the maximum flow rate for the process flare (FS-762) to 350 mmscf/yr for increased operation flexibility.

This package contains the required application forms and emissions calculations. MPLX is also requesting that the Title V permit be updated with the information submitted herein. The public notice for the proposed construction will be published in the ***Doddridge Independent***. MPLX will forward the Affidavit of Publication to your attention once it is received from the publisher.

Should you have any questions or comments, please call me at (412) 815-8886 or e-mail ajuarez@marathonpetroleum.com.

Sincerely,

Alexandra M. Juarez
Environmental Engineer

SHERWOOD GAS PLANT

45CSR13 Modification Application

SUBMITTED TO WVDEP DIVISION OF AIR QUALITY
May 7, 2024

TABLE OF CONTENTS

INTRODUCTION

MPLX seeks authorization to increase the maximum flow rate for the process flare (FS-762) for increased operation flexibility.

Proposed Emissions

Emissions calculations for the project are presented in Attachment N. All emissions are below the thresholds for Prevention of Significant Deterioration (PSD) analysis. Summaries of the total facility-wide emissions are presented for criteria pollutants and hazardous air pollutants (HAPs).

WVDEP APPLICATION FOR NSR PERMIT

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):*
MarkWest Liberty Midstream & Resources, L.L.C

2. Federal Employer ID No. ***(FEIN):***
300528059

3. Name of facility *(if different from above):*
Sherwood Gas Plant

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

5A. Applicant's mailing address:
1515 Arapahoe Street, Tower 1, Suite 1600

Denver, CO 80202-2137

5B. Facility's present physical address:
218 Swisher Lane
West Union, WV 26456

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:

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 owns the 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 processing plant

10. North American Industry Classification System **(NAICS)** code for the facility:
211112

11A. DAQ Plant ID No. (for existing facilities only):
017-00034

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-2914K
R30-01700034-2023

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 W Virginia 20S, turn onto CO Rd 7/8 (2.8 mi), continue onto CO Rd 80 (0.8 mi), turn left onto CO Rd 7/4 (0.4 mi), turn right onto CO Rd 7/4/Sheep Run (0.8 mi). Turn left onto CO Rd 7/7, arrive at destination.

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
218 Swisher Lane, West Union, WV 26456	West Union	Doddridge
12.E. UTM Northing (KM): 4346.885	12F. UTM Easting (KM):526.921	12G. UTM Zone: 17S

13. Briefly describe the proposed change(s) at the facility:
Increase flare (FS-762) maximum flow rate to 350 MMscf/yr

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

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 52

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).

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	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	☐ Storage Tanks
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	

☐ General Emission Unit, specify: HMO Heater (H-771a) and DeEthanizer HMO Heater (D1-H-782)

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	☐ Baghouse	☒ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ 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 _____ DATE: 5-9-24

(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: William F. Uhl		35C. Title: Operations Director
35D. E-mail: WFUhl@marathonpetroleum.com	36E. Phone: 724-514-4363	36F. FAX: N/A
36A. Printed name of contact person (if different from above): Alexandra M. Juarez		36B. Title: Environmental Engineer
36C. E-mail: ajuarez@marathonpetroleum.com	36D. Phone: 412-815-8886	36E. FAX: N/A

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.

APPLICATION CHECKLIST

A complete application is demonstrated when all of the information required below is properly prepared, completed and attached. The items listed below are required information which must be submitted with a 45CSR13 permit application. Any submittal will be considered incomplete if the required information is not included. The applicant must submit a complete application in order to receive a 45CSR13 permit.	
☑	**Class I legal advertisement published in a newspaper certified to accept legal advertisements and original affidavit submitted.**
☑	**$1,000 application fee for construction, modification, relocation or temporary permit; $1,000 application fee for being subject to NSPS. Additional application fees:** • **$1,000 NSPS** • **$5,000 Major Modification** • **$2,500 NESHAP** • **$10,000 Major Construction** • **$2,500 45CSR27 Pollutant**
	Original and three (3) copies of the application. ***(Submitted electronically)***
☑	**File organization – application pages are numbered and in correct order, application is bound in some way, etc.**
☑	**Confidential Business Information is properly identified.**
☑	**General application forms signed by a responsible official.**
	Authority form – required if application is signed by someone other than a responsible official – one of the following: • **Authority of Corporation if application is not signed by the President or CEO;** • **Authority of Partnership if application is not signed by a general partner or proprietor;** • **Authority of Limited Partnership if application is not signed by general partner or proprietor; or**

	• **Authority of Governmental Agency if application is not signed by principal elected officer or ranking elected official.**
☑	**Copy of current Business Registration Certificate.**
☑	**Process description, including equipment and emission point identification numbers.**
☑	**Process flow diagram, including equipment and emission point identification numbers.**
☑	**Plot plan, including equipment and emission point identification numbers.**
☑	**Area map with directions and location marked.**
☑	**Applicable technical forms completed and submitted:** • **Emission Point Data Summary Sheets** • **Emission Unit Data sheets** • **Air Pollution Control Device Sheets** • **Equipment List Form**
☑	**Emission calculations – emission factors, references, source identification numbers, etc.**

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

MARKWEST LIBERTY MIDSTREAM & RESOURCES, L.L.C.

Control Number: 99D5Y

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 February 5, 2009, until a certificate of cancellation is filed with our office.

Therefore, I hereby issue this

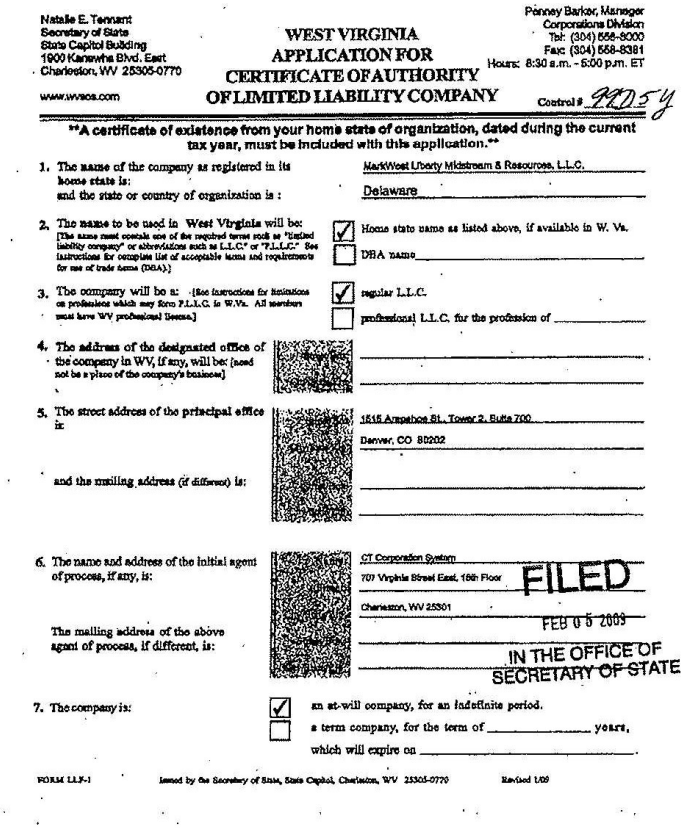
CERTIFICATE OF AUTHORITY OF A FOREIGN LIMITED LIABILITY COMPANY

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 February 5, 2009

Natalie E. Tennant

Secretary of State



Natalie E. Tennant
Secretary of State
State Capitol Building
1900 Kanawha Blvd. East
Charleston, WV 25305-0770
www.wvsos.com

Penney Barker, Manager
Corporations Division
Tel: (304) 558-8000
Fax: (304) 558-8381
Hours: 8:30 a.m. - 5:00 p.m. ET

WEST VIRGINIA
APPLICATION FOR
CERTIFICATE OF AUTHORITY
OF LIMITED LIABILITY COMPANY

Control # 99054

****A certificate of existence from your home state of organization, dated during the current tax year, must be included with this application.****

1. The name of the company as registered in its home state is: MarkWest Liberty Midstream & Resources, L.L.C.
   and the state or country of organization is: Delaware

2. The name to be used in West Virginia will be: [The name must contain one of the required terms such as "limited liability company" or abbreviations such as L.L.C." or "P.L.L.C." See instructions for complete list of acceptable terms and requirements for use of trade terms (DBA).]
   ☑ Home state name as listed above, if available in W. Va.
   ☐ DBA name _____

3. The company will be a: [See instructions for limitations on professions which may form P.L.L.C. in W.Va. All members must have WV professional license.]
   ☑ regular L.L.C.
   ☐ professional L.L.C. for the profession of _____

4. The address of the designated office of the company in WV, if any, will be: [need not be a place of the company's business]
   [redacted]

5. The street address of the principal office is:
   1515 Arapahoe St., Tower 2, Suite 700
   Denver, CO 80202
   and the mailing address (if different) is:
   [redacted]

6. The name and address of the initial agent of process, if any, is:
   CT Corporation System
   707 Virginia Street East, 16th Floor
   Charleston, WV 25301
   The mailing address of the above agent of process, if different, is:
   [redacted]

FILED
FEB 05 2009
IN THE OFFICE OF
SECRETARY OF STATE

7. The company is:
   ☑ an at-will company, for an indefinite period.
   ☐ a term company, for the term of _____ years,
   which will expire on _____.

FORM LLF-1 Issued by the Secretary of State, State Capitol, Charleston, WV 25305-0770 Revised 1/09

W. VA. APPLICATION FOR CERTIFICATE OF AUTHORITY OF LTD. LIABILITY CO. Page 2

8. The Company is:

☑ member-managed. [List the names and addresses of all members who have signature authority, attach extra page if needed]

☐ manager-managed. [List the names and addresses of all managers who have signature authority, attach extra page if needed]

Name	Address
MarkWest Liberty Gas Gathering, L.L.C.	1515 Arapahoe St., Tower 2, Suite 700, Denver, CO 80202

9. All or specified members of a limited liability company are liable in their capacity as members for all or specified debts, obligations or liabilities of the company.

☑ NO – All debts, obligations and liabilities are those of the company.

☐ YES – Those persons who are liable in their capacity as members for all debts, obligations or liability of the company have consented in writing to the adoption of the provision or to be bound by the provision.

10. The purpose for which this limited liability company is formed are as follows:
(Describe the type(s) of business activity which will be conducted, for example, "real estate," "construction of residential and commercial buildings," "commercial printing," "professional practice of architecture.")

Natural gas midstream services

11. The number of pages attached and included in this application is 2

12. The requested date for the establishment of the limited liability company in West Virginia is:

☑ the date & time of filing.

☐ the following date _____ and time _____
(Requested date may not be earlier than filing nor later than 90 days after filing)

13. Enter the number of acres the company desires to hold in West Virginia. If your company holds more than 10,000 acres of land, you must submit a fee of 5¢ for each acre over 10,000. 100

14. Contact and Signature Information:

a. Contact person to reach in case there is a problem with filing: Tiffany Kenyon

Phone # (303) 925-9304

b. Signature of manager of a manager-managed company, member of a member-managed company, person organizing the company, if the company has not been formed or attorney-in-fact for any of the above.

Andrew Schroeder — Name [print or type]

VP Finance & Treas — Title/Capacity

[signature] — Signature

Delaware PAGE 1

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "MARKWEST LIBERTY MIDSTREAM & RESOURCES, L.L.C." IS DULY FORMED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE TWENTY-SIXTH DAY OF JANUARY, A.D. 2009.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL TAXES HAVE NOT BEEN ASSESSED TO DATE.

AND I DO HEREBY FURTHER CERTIFY THAT THE SAID "MARKWEST LIBERTY MIDSTREAM & RESOURCES, L.L.C." WAS FORMED ON THE TWENTIETH DAY OF JANUARY, A.D. 2009.

4646510 8300

090065907

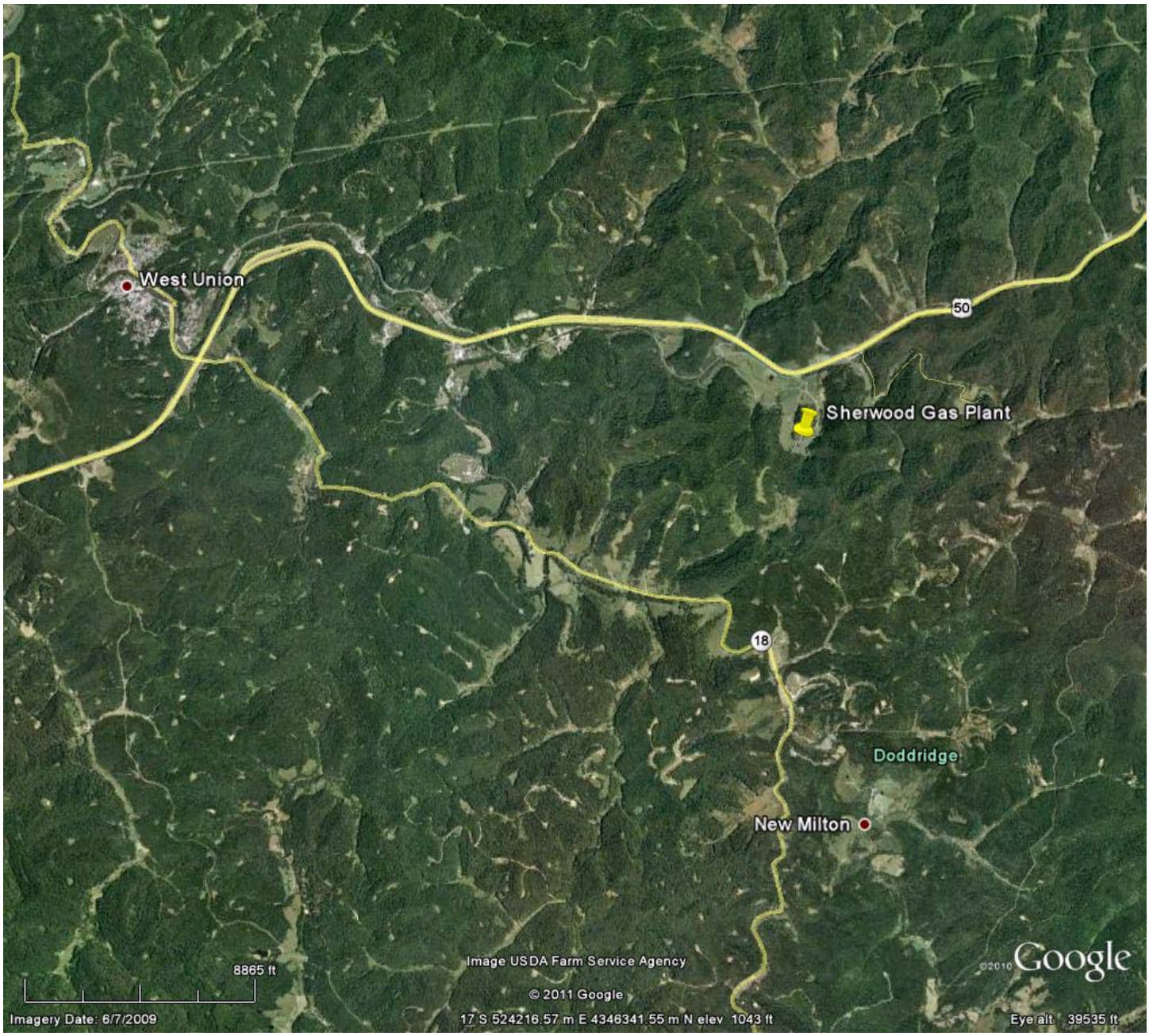
You may verify this certificate online at corp.delaware.gov/authver.shtml

Jeffrey W. Bullock, Secretary of State

AUTHENTICATION: 7098568

DATE: 01-26-09

ATTACHMENT B: MAPS


West Union
50
Sherwood Gas Plant
18
Doddridge
New Milton
8865 ft
Image USDA Farm Service Agency
© 2011 Google
©2010 Google
Imagery Date: 6/7/2009
17 S 524216.57 m E 4346341.55 m N elev 1043 ft
Eye alt 39535 ft

ATTACHMENT C: INSTALLATION/START-UP SCHEDULE

Not applicable. No physical changes or changes in operation are being proposed with this application.

ATTACHMENT D: REGULATORY DISCUSSION

MarkWest has reviewed the regulatory provisions and offers the following discussion regarding applicability to the proposed construction.

STATE IMPLEMENTATION PLAN (SIP):
This application does not involve a stationary source to be located in a non-attainment area subject to a SIP.

FEDERAL IMPLEMENTATION PLAN:
No Federal Implementation Plan is in effect where this stationary source is proposed.

45 CSR 4 – OBJECTIONABLE ODORS:
Normal operations of the facility are not expected to generate objectionable odors.

45 CSR 13 - PERMITS FOR CONSTRUCTION, MODIFICATION, RELOCATION AND OPERATION OF STATIONARY SOURCES OF AIR POLLUTANTS, NOTIFICATION REQUIREMENTS, ADMINISTRATIVE UPDATES, TEMPORARY PERMITS, GENERAL PERMITS, AND PROCEDURES FOR EVALUATION:
This application is submitted in compliance with 45CSR13.

45 CSR 14 – PREVENTION OF SIGNIFICANT DETERIORATION (PSD):
The proposed amendment to this source will not cause it to be a major source subject to the provisions of the PSD rule.

45 CSR 19 – NONATTAINMENT NEW SOURCE REVIEW:
The proposed facility will not be located in a non-attainment area.

45 CSR 22 - AIR QUALITY MANAGEMENT FEE PROGRAM:
The facility will be required to maintain a valid Certificate to Operate on the premises.

45 CSR 28 – EMISSIONS TRADING AND BANKING:
The applicant for the facility does not voluntarily choose to participate in an emission reduction credit trading program.

45 CSR 30 - REQUIREMENTS FOR OPERATING PERMITS:
This application is submitted in compliance with 45CSR30 and remains a major source.

45 CSR 30-2.6.1 – EMISSIONS CAP:
This facility will not be subject to any emissions caps as provided by this provision.

45 CSR 33 – ACID RAIN:
The facility will not be a source subject to the provision of the Acid Rain program.

FEDERAL

SECTION 112(d) MACT STANDARDS:
The facility will not be a major source of hazardous air pollutants and is not subject to the MACT provisions.

SECTION 112(g) CASE-BY-CASE MACT:
The facility will not be a major source of hazardous air pollutants and is not subject to the MACT provisions.

SECTION 112 (i) EARLY REDUCTION OF HAP:
The facility will not be a major source of hazardous air pollutants and is not subject to this provision.

SECTION 112(r) RISK MANAGEMENT PLAN (RMP):
It is anticipated that the facility will maintain hazardous substances in excess of 10,000 pounds and thus will be subject to this provision.

SECTION 129 STANDARDS/REQUIREMENTS:
Operation of this facility will not involve solid waste combustion or incineration; therefore, this standard does not apply.

SECTION 183 (e) CONSUMER/COMMERCIAL PRODUCT REQUIREMENTS:
Operation of this facility will not involve the manufacture or sale of consumer or commercial products and will not be subject to this regulatory provision.

SECTION 183 (f) TANK VESSEL REQUIREMENTS:
The facility will not employ marine tank vessels; therefore, this provision does not apply.

STRATOSPHERIC OZONE (TITLE VI):
This facility will not use Class I ozone-depleting substances (ODS) including chlorofluorocarbons (CFC) and Class II ODS, which are hydrochlorofluorocarbons (HCFC), so this provision does not apply.

40 CFR PART 60 SUBPART Db – STANDARDS OF PERFORMANCE FOR INDUSTRIAL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS:
The DeEthanizer HMO Heater (D1-H-782) has a fired capacity of 119.2 mmbtu/hr and is therefore subject to NSPS Subpart Db. The Sherwood Gas Plant will comply with this Subpart through predictive emission monitoring of NOx as proscribed in the consent decree between the USEPA and MarkWest entered into on January 9, 2019.

40 CFR Part 60 SUBPART Dc – STANDARDS OF PERFORMANCE FOR SMALL INDUSTRIAL-COMMERICAL-INSTITUTIONAL STEAM GENERATING UNITS:

Several of the Regen Heaters will be subject to NSPS Subpart Dc. These heaters can only combust natural gas so compliance will be determined by tracking that only natural gas is combusted and tracking the maximum heat release of the heaters and hours of operation.

40 CFR PART 60 SUBPART IIII - STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES:

The existing diesel-fired emergency engine meets the defined Tiered emissions requirements in NSPS Subpart IIII and require no further evaluation.

40 CFR PART 60 SUBPART JJJJ - STANDARDS OF PERFORMANCE FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES:

The existing natural gas-fired compressor engines are stationary spark ignition internal combustion engines manufactured after July 1, 2007 and are subject to this subpart.

40 CFR PART 60 SUBPART OOOO – STANDARDS OF PERFORMANCE FOR CRUDE OIL AND NATURAL GAS PRODUCTION, TRANSMISSION, AND DISTRIBUTION:

This subpart establishes emission standards and compliance schedules for the control of VOC emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011 and before September 18, 2015. The natural gas processing plants constructed after the applicable date will be subject to requirements under this rule. However, on July 1, 2022, MarkWest intends to voluntarily accept NSPS OOOOa applicability, specific to LDAR requirements under 40 CFR 60.5400a, for equipment located within Sherwood Plants I through VI and the inlet station to ensure consistent reporting requirements under 40 CFR 60.5420a. Storage tanks at the site are not subject to this subpart because the emissions are less than 6 tpy per tank. Pneumatic controllers at the site are air-driven devices to comply with the rule.

40 CFR PART 60 SUBPART OOOOa – STANDARDS OF PERFORMANCE FOR CRUDE OIL AND NATURAL GAS FACILITIES FOR WHICH CONSTRUCTION, MODIFICATION OR RECONSTRUCTION COMMENCED AFTER SEPTEMBER 18, 2015:

This subpart establishes emission standards and compliance schedules for the control of VOC emissions from affected facilities that commence construction, modification or reconstruction after September 18, 2015. As of July 1, 2022, MarkWest has elected to voluntarily comply with 40 CFR 60.5400a for all natural gas processing plant process units at the facility. Storage tanks at the site are not subject to this subpart because the emissions are less than 6 tpy per tank. Pneumatic controllers at the site are air-driven devices to comply with the rule.

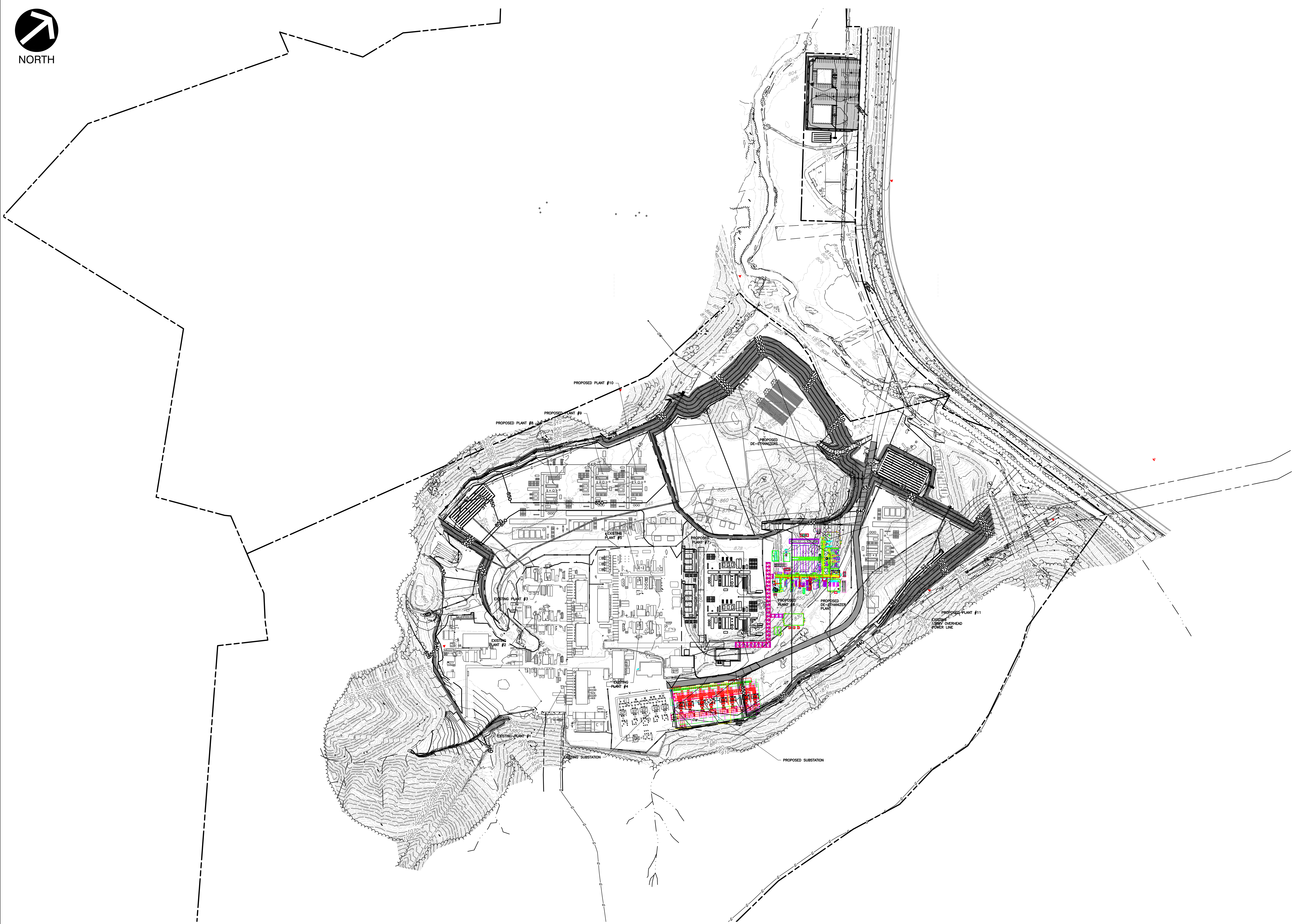
40 CFR PART 63 SUBPART ZZZZ - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES FROM STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES:

The facility will be a minor (area) source of hazardous air pollutants (HAP). The natural gas-fired engines are stationary reciprocating internal combustion engines (RICE) and commenced construction after June 12, 2006 and are, therefore, subject to this subpart. The engines meet requirements by complying with Subpart JJJJ. No further requirements apply for these engines under this subpart.

40 CFR PART 64 - COMPLIANCE ASSURANCE MONITORING:

The facility is a major source but the newly requested equipment does not rely on control equipment to reduce the potential emissions; therefore, Part 64 does not apply.

ATTACHMENT E: PLOT PLAN



LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING EDGE OF CONCRETE
- EXISTING PAVED ROADWAY
- EXISTING UNPAVED DRIVEWAY
- EXISTING FENCE
- EXISTING GUIDERAIL
- EXISTING GAS LINE
- EXISTING FIBER OPTIC LINE
- EXISTING CABLE LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING STORM SEWER LINE
- EXISTING UTILITY POLE W/ GUY WIRE
- EXISTING GAS VALVE/METER
- EXISTING STORM INLET/CATCH BASIN
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WELL
- EXISTING STREAM
- EXISTING WETLAND
- PROPOSED GRAVEL
- PROPOSED ASPHALT
- PROPOSED GUIDERAIL
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- 871.0 PROPOSED SPOT ELEVATION
- PROPOSED STORM INLET
- PROPOSED HEADWALL/ENDWALL
- PROPOSED MANHOLE
- PROPOSED STORM SEWER

GENERAL NOTES

1. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER IMMEDIATELY.
2. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
3. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE CONSTRUCTION DESCRIBED IN THE PLANS AND SPECIFICATIONS.
4. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
5. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
6. CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS IN THE FIELD. CONTRACTOR TO PROVIDE AN AS-BUILT SUMMARY OF THE PROJECT IMPROVEMENTS AT THE COMPLETION OF WORK. THIS AS-BUILT SURVEY IS TO BE PREPARED BY A REGISTERED SURVEY OF WEST VIRGINIA.

REFERENCE

1. EXISTING TOPOGRAPHY DEVELOPED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC) USING CEC SURVEY DATA AND DIGITAL ELEVATION MODELS (USGS 3-METER), 2003 OF THE U.S. GEOLOGICAL SURVEY (USGS) AND WEST VIRGINIA STATEWIDE ADDRESSING & MAPPING BOARD (WV SAMB). CONTRACTOR IS TO ALL VERIFY ELEVATIONS IN THE FIELD AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. STREAM AND WETLAND LOCATIONS DELINEATED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
3. DE-ETHANIZER LAYOUT PROVIDED TO CEC ELECTRONICALLY BY MARKWEST, TITLED: HO-PM-1017.DWG, RECEIVED: 11/18/2012
4. EXISTING UTILITIES LOCATED BY CEC.

M.U.W.V TICKET NUMBER: 112080274

CALL BEFORE YOU DIG
MUWV
Miss Utility of West Virginia, Inc.
1-800-245-4848

* HAND SIGNATURE ON FILE

EDWARD J. FINK
REGISTERED
18669
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
333 Baldwin Road - Pittsburgh, PA 15205
412-429-2324 · 800-365-2324
www.cecinc.com

MARKWEST LIBERTY MIDSTREAM & RESOURCES, LLC
SHERWOOD GAS PROCESSING PLANTS 6 & 7
DODDRIDGE COUNTY, WEST VIRGINIA

DATE:	02/11/14	DRAWN BY:	KLL
DWG SCALE:		CHECKED BY:	ARG EJF
PROJECT NO:	110-811.5001		
APPROVED BY:	*RPC		

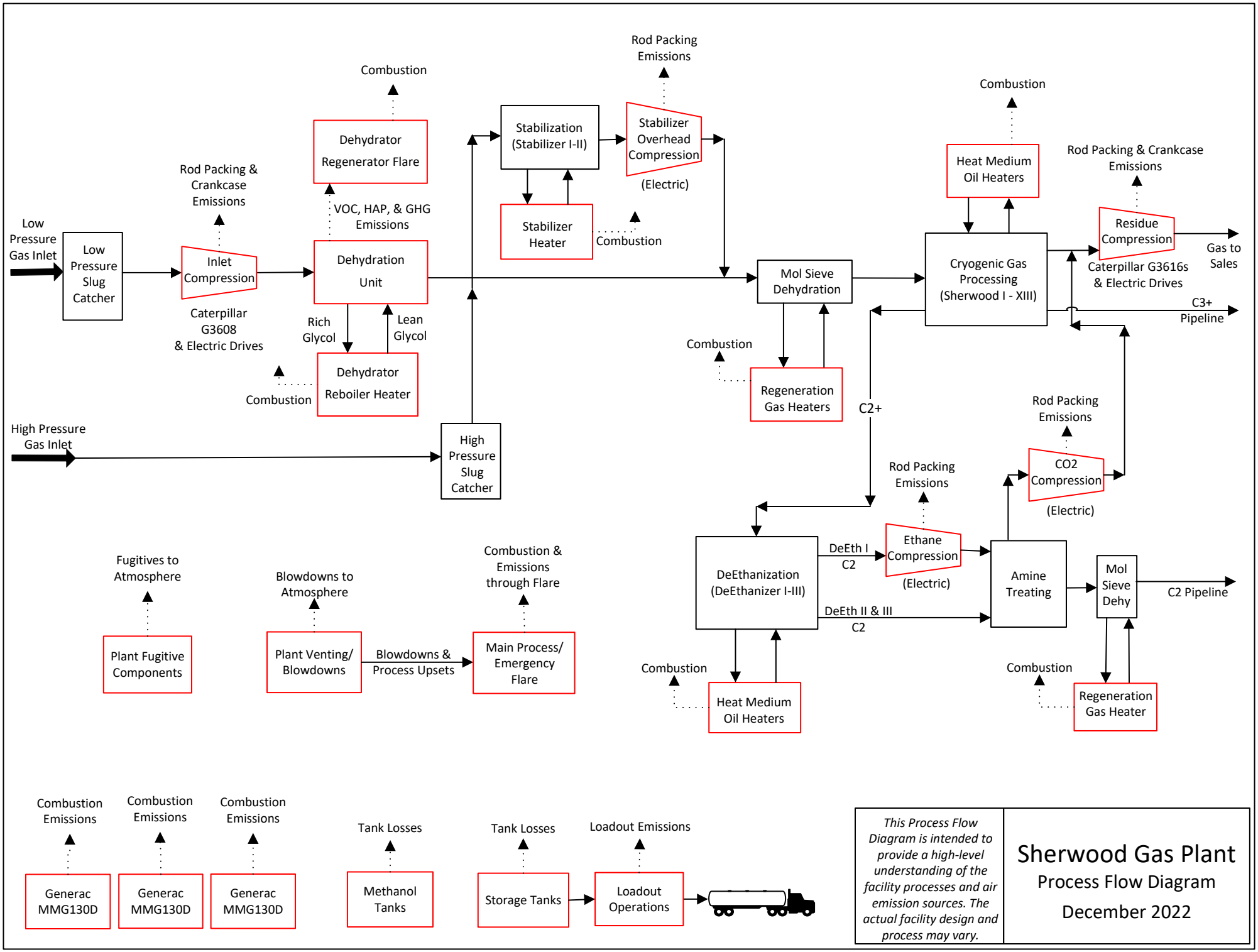
DRAWING NO.:

P:\2011\110-811\-CADD\Dwg\TASK 5001 PLANTS 6 AND 7\110-811.5001- C001.dwg{OVERALL SITE PLAN} LS:(12/10/2014

ATTACHMENT F: PFD

ATTACHMENT G: PROCESS DESCRIPTION

The Sherwood Gas Plant is used as a processing plant and compressor station to process gas from the gas wells throughout West Virginia. High pressure natural gas enters the cryogenic plants and passes through a molecular sieve to remove excess water in the gas stream. The gas then enters the cryogenic plant, which lowers the temperature of the gas in order to separate ethane and heavier hydrocarbons (Y-grade) from methane gas. After this refrigeration the gas is ready to go to market and passes through outlet compression prior to entering the downstream pipeline to a distribution pipeline operated by a separate entity. Liquids removed from the gas stream will pass through the deethanization units to separate ethane as a purity product from the remainder of the natural gas liquid stream. Purity ethane is distributed by pipeline. Natural gas liquids are transferred via pipeline to a fractionation facility. Atmospheric storage tanks at the inlet compressor station will be controlled with a VRU to recover 98% of VOCs. Under normal operating conditions electric pumps will be utilized to transfer the removed saltwater and hydrocarbons from the atmospheric storage tanks to another site for further processing. Truck loading may occur; however, the loading will be done in a closed loop system to minimize emissions. A process/emergency flare currently exists to burn vapors released from the reboiler, pressure relief valves on the demethanizer, and refrigeration plant in the event of an emergency and for control of maintenance activities.


Low Pressure Gas Inlet
Low Pressure Slug Catcher
Rod Packing & Crankcase Emissions
Inlet Compression
Caterpillar G3608 & Electric Drives
Combustion
Dehydrator Regenerator Flare
VOC, HAP, & GHG Emissions
Dehydration Unit
Rich Glycol
Lean Glycol
Dehydrator Reboiler Heater
Combustion
High Pressure Gas Inlet
High Pressure Slug Catcher
Rod Packing Emissions
Stabilization (Stabilizer I-II)
Stabilizer Overhead Compression
(Electric)
Stabilizer Heater
Combustion
Mol Sieve Dehydration
Combustion
Regeneration Gas Heaters
Combustion
Heat Medium Oil Heaters
Rod Packing & Crankcase Emissions
Residue Compression
Caterpillar G3616s & Electric Drives
Gas to Sales
Cryogenic Gas Processing (Sherwood I - XIII)
C3+ Pipeline
C2+
Rod Packing Emissions
CO2 Compression
(Electric)
Rod Packing Emissions
Ethane Compression
(Electric)
DeEthanization (DeEthanizer I-III)
DeEth I C2
DeEth II & III C2
Amine Treating
Mol Sieve Dehy
C2 Pipeline
Combustion
Heat Medium Oil Heaters
Combustion
Regeneration Gas Heater
Fugitives to Atmosphere
Plant Fugitive Components
Blowdowns to Atmosphere
Plant Venting/ Blowdowns
Blowdowns & Process Upsets
Combustion & Emissions through Flare
Main Process/ Emergency Flare
Combustion Emissions
Generac MMG130D
Combustion Emissions
Generac MMG130D
Combustion Emissions
Generac MMG130D
Tank Losses
Methanol Tanks
Tank Losses
Storage Tanks
Loadout Emissions
Loadout Operations
This Process Flow Diagram is intended to provide a high-level understanding of the facility processes and air emission sources. The actual facility design and process may vary.
Sherwood Gas Plant
Process Flow Diagram
December 2022

ATTACHMENT H: SAFETY DATA SHEETS

Not applicable. No changes from previous authorization.

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]
CM-1001	CM-1001	Caterpillar G3616 LE Engine	2012	4,735-hp	Existing	Oxid. Cat.
CM-1002	CM-1002	Caterpillar G3616 LE Engine	2012	4,735-hp	Existing	Oxid. Cat.
CM-2001	CM-2001	Caterpillar G3608 LE Engine	2012	2,370 – hp	Existing	Oxid. Cat.
G-1	G-1	Generac Generator	2012	Exempt	Removed	Exempt
G-2	G-2	Generac Generator	2012	Exempt	Removed	Exempt
G-3	G-3	Generac Generator	2015	Exempt	Exempt	Exempt
H-711	H-711	Mole Sieve Regeneration Heater	2012	7.85 MMbtu/hr	Removed	None
H-711a	H-711a	Mole Sieve Regeneration Heater	2018	8.76 MMbtu/hr	Existing	None
H-771	H-771	Hot Oil Heater	2012	30.04 MMbtu/hr	Removal 2022	None
H-771a	H-771a	Hot Oil Heater	2022	32.76 MMbtu/hr	Existing	None
DH-001	DH-001	TEG Dehydration Unit	2012	120 MMscfd	Existing	Flare
RB-001	RB-001	Dehydration Unit Reboiler	2012	2 MMbtu/hr	Existing	None
FS-762	**FS-762**	**Main Process/Emergency Flare**	**2015**	**68,600 scf/min**	**Updated**	**N/A**
FL-DH	FL-DH	Dehydrator Flare	2012	0.69 scf/min	Existing	N/A
FUG-001	FUG-001	Fugitive Leaks	2012	N/A	Existing	None
L-1	L-1	Liquid Loadout	2012	*1,514,000* gal/yr	Existing	Flare
L-2	L-2	Inlet Condensate Loadout	2012	929,202 gal/yr	Existing	*VRU or Flare*
TNK-001	TNK-001	Storage Tank Flashing Emissions	2012	N/A	Existing	VRU
H-2711	H-2711	Mole Sieve Regeneration Heater	2013	7.85 MMbtu/hr	Removed	None
H-2711a	H-2711a	Mole Sieve Regeneration Heater	2018	8.76 MMbtu/hr	Existing	None
H-3711	H-3711	Mole Sieve Regeneration Heater	2013	15.58 MMbtu/hr	Existing	None
H-4711	H-4711	Mole Sieve Regeneration Heater	2014	18.00 MMbtu/hr	Existing	None
H-5711	H-5711	Mole Sieve Regeneration Heater	2014	18.00 MMbtu/hr	Existing	None

H-6711	H-6711	Mole Sieve Regeneration Heater	2015	18.00 MMbtu/hr	Existing	None
H-4712	H-4712	Hot Oil Heater	2014	6.60 MMbtu/hr	Existing	None
H-6712	H-6712	Hot Oil Heater	2015	6.60 MMbtu/hr	Existing	None
H-7711	H-7711	Mole Sieve Regeneration Heater	2017	18.00 MMbtu/hr	Existing	None
H-8711	H-8711	Mole Sieve Regeneration Heater	2017	18.00 MMbtu/hr	Existing	None
H-9711	H-9711	Mole Sieve Regeneration Heater	2017	18.00 MMbtu/hr	Existing	None
H-8712	H-8712	Hot Oil Heater	2017	7.19 MMbtu/hr	Existing	None
D1-H-782	D1-H-782	DeEthanizer HMO Heater	2015	119.20 MMbtu/hr	Existing	None
D1-H-741	D1-H-741	DeEthanizer Regen Heater	2015	12.23 MMbtu/hr	Existing	None
H-10711	H-10711	Mole Sieve Regeneration Heater	2018	10.62 MMbtu/hr	Existing	None
H-11711	H-11711	Mole Sieve Regeneration Heater	2018	10.62 MMbtu/hr	Existing	None
H-12711	H-12711	Mole Sieve Regeneration Heater	2019	10.62 MMbtu/hr	Existing	None
H-13711	H-13711	Mole Sieve Regeneration Heater	2019	10.62 MMbtu/hr	Existing	None
H-10768	H-10768	DeEthanizer II HMO Heater	2018	65.43 MMbtu/hr	Existing	None
H-10775	H-10775	DeEthanizer II Regen Heater	2018	6.05 MMbtu/hr	Existing	None
DE3 H-768	DE3 H-768	DeEthanizer III HMO Heater	2019	65.4 MMbtu/hr	Existing	None
DE3 H-775	DE3 H-775	DeEthanizer III Regen Heater	2019	5.94 MMbtu/hr	Existing	None
H-751	H-751	Stabilization Heater I	2018	6.35 MMbtu/hr	Existing	None
MT-1	MT-1	Methanol Tank	2012	500 gallons	Existing	None
MT-2	MT-2	Methanol Tank	2013	500 gallons	Existing	None
MT-3	MT-3	Methanol Tank	2014	500 gallons	Existing	None
MT-4	MT-4	Methanol Tank	2014	500 gallons	Existing	None
MT-5	MT-5	Methanol Tank	2015	500 gallons	Existing	None
MT-6	MT-6	Methanol Tank	2017	500 gallons	Existing	None
MT-7	MT-7	Methanol Tank	2017	500 gallons	Existing	None
MT-8	MT-8	Methanol Tank	2017	500 gallons	Existing	None
MT-9	MT-9	Methanol Tank	2018	500 gallons	Existing	None
MT-10	MT-10	Methanol Tank	2018	500 gallons	Existing	None

MT-11	MT-11	Methanol Tank	2018	500 gallons	Existing	None
GT-1	GT-1	Gasoline Tank	2012	500 gallons	Existing	None
DT-1	DT-1	Diesel Tank	2018	1,000 gallons	Existing	None
DT-2	DT-2	Diesel Tank	2018	1,000 gallons	Existing	None
1B	1B	Facility Blowdowns	2012	N/A	Existing	None
1V	1V	Crankcase Vents	2012	N/A	Existing	None
RP	RP	Rod Packing Emissions	2012	N/A	Existing	None

[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			
CM-1001	Vert St Rain CP	Same	Same	N/A	Oxid. Cat.	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 Acetaldehyde Acrolein Benzene Ethylbenzene Formaldehyde Methanol Toluene Xylenes	5.22 28.71 6.58 <0.01 0.35 0.02 0.30 0.18 0.02 <0.01 4.18 0.09 0.01 0.01	22.86 125.73 28.80 0.01 1.55 0.09 1.30 0.80 0.07 0.01 18.29 0.39 0.06 0.03	5.22 1.46 1.67 <0.01 0.35 0.02 0.30 0.18 0.02 <0.01 0.42 0.09 0.01 0.01	22.86 6.40 7.32 0.01 1.55 0.09 1.30 0.80 0.07 0.01 1.83 0.39 0.06 0.03	Gas/Vapor	O (Manufacturer Data/AP-42)	-
CM-1002	Vert St Rain CP	Same	Same	N/A	Oxid. Cat.	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 Acetaldehyde Acrolein Benzene Ethylbenzene Formaldehyde Methanol Toluene Xylenes	5.22 28.71 6.58 <0.01 0.35 0.02 0.30 0.18 0.02 <0.01 4.18 0.09 0.01 0.01	22.86 125.73 28.80 0.01 1.55 0.09 1.30 0.80 0.07 0.01 18.29 0.39 0.06 0.03	5.22 1.46 1.67 <0.01 0.35 0.02 0.30 0.18 0.02 <0.01 0.42 0.09 0.01 0.01	22.86 6.40 7.32 0.01 1.55 0.09 1.30 0.80 0.07 0.01 1.83 0.39 0.06 0.03	Gas/Vapor	O (Manufacturer Data/AP-42)	-

CM-2001	Vert St Rain CP	Same	Same	N/A	Oxid. Cat.	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 Acetaldehyde Acrolein Benzene Ethylbenzene Formaldehyde Methanol Toluene Xylenes	2.61 14.37 5.75 <0.01 0.16 0.01 0.13 0.08 0.01 <0.01 1.36 0.04 0.01 <0.01	11.44 62.93 25.17 0.01 0.69 0.01 0.57 0.35 0.03 <0.01 5.95 0.17 0.03 0.01	2.61 0.73 1.46 <0.01 0.16 0.01 0.13 0.08 0.01 <0.01 0.16 0.04 0.01 <0.01	11.44 3.20 6.41 0.01 0.69 0.04 0.57 0.35 0.03 <0.01 0.69 0.17 0.03 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	-
G-3	Vert St Rain CP	Same	Same	N/A	N/A	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 Benzene Formaldehyde Toluene Xylenes	2.31 1.19 1.01 0.02 0.02 0.31 <0.01 <0.01 <0.01 <0.01	0.58 0.30 0.25 0.01 0.01 0.08 <0.01 <0.01 <0.01 <0.01	2.31 1.19 1.01 0.02 0.02 0.31 <0.01 <0.01 <0.01 <0.01	0.58 0.30 0.25 0.01 0.01 0.08 <0.01 <0.01 <0.01 <0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	-
H-711a	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.26 0.53 0.05 0.07 0.07 0.01 0.01	1.15 2.30 0.21 0.29 0.29 0.02 0.06	0.26 0.53 0.05 0.07 0.07 0.01 0.01	1.15 2.30 0.21 0.29 0.29 0.02 0.06	Gas/Vapor	O (Manufacturer Data/AP-42)	-
H-751	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.25 0.25 0.03 0.05 0.05 <0.01 0.01	1.11 1.11 0.15 0.21 0.21 0.01 0.04	0.25 0.25 0.03 0.05 0.05 <0.01 0.01	1.11 1.11 0.15 0.21 0.21 0.01 0.04	Gas/Vapor	O (Manufacturer Data/AP-42)	-
H-771a	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.98 1.97 0.18 0.24 0.24 0.02 0.05	4.30 8.61 0.77 1.07 1.07 0.08 0.23	0.98 1.97 0.18 0.24 0.24 0.02 0.05	4.30 8.61 0.77 1.07 1.07 0.08 0.23	Gas/Vapor	O (Manufacturer Data/AP-42)	-

DH-001	Vert St	Same	Same	N/A	Flare	N/A	N/A	VOC HAP Benzene Toluene Xylenes n-Hexane	90.43 22.05 1.31 6.84 12.47 1.43	396.07 96.57 5.73 29.98 54.61 6.26	1.81 0.44 0.03 0.14 0.25 0.03	7.92 1.93 0.11 0.56 1.09 0.13	Gas / Vapor	GRI-GLYCalc	-
RB-001	Vert St	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.20 0.16 0.01 0.01 0.01 <0.01 <0.01	0.86 0.72 0.05 0.07 0.07 0.01 0.01	0.20 0.16 0.01 0.01 0.01 <0.01 <0.01	0.86 0.72 0.05 0.07 0.07 0.01 0.01	Gas/Vapor	AP-42	-
FS-762	**Vert St Rain CP**	**Same**	**Same**	**N/A**	**None**	**N/A**	**N/A**	**NOx CO PM_{10} PM Total SO_2**	**140.81 641.93 <0.01 <0.01 <0.01**	**14.72 67.11 0.01 0.01 <0.01**	**140.81 641.93 <0.01 <0.01 <0.01**	**14.72 67.11 0.01 0.01 <0.01**	**Gas/Vapor**	**AP-42**	**-**
TNK-001	Fugitives	Same	Same	N/A	VRU	N/A	N/A	VOC HAP	34.086 0.868	149.30 3.80	0.68 0.02	2.99 0.08	Gas/Vapor	ProMax Run	-
FUG-001	Fugitives	Same	Same	N/A	None	N/A	N/A	VOC HAP	3.77 0.21	16.51 0.91	3.77 0.21	16.51 0.91	Gas/Vapor	EPA Protocol for Equipment Leak Emission Estimates	-
H-2711a	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.26 0.53 0.05 0.07 0.07 0.01 0.01	1.15 2.30 0.21 0.29 0.29 0.02 0.06	0.26 0.53 0.05 0.07 0.07 0.01 0.01	1.15 2.30 0.21 0.29 0.29 0.02 0.06	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-3711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.47 0.93 0.08 0.12 0.12 0.01 0.02	2.05 4.09 0.37 0.51 0.51 0.04 0.11	0.47 0.93 0.08 0.12 0.12 0.01 0.02	2.05 4.09 0.37 0.51 0.51 0.04 0.11	Gas/Vapor	O (Manufacturer Data/AP-42)	

H-4711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-5711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-6711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-4712	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.26 0.26 0.04 0.05 0.05 <0.01 0.01	1.16 1.16 0.16 0.22 0.22 0.02 0.05	0.26 0.26 0.04 0.05 0.05 <0.01 0.01	1.16 1.16 0.16 0.22 0.22 0.02 0.05	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-6712	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.26 0.26 0.04 0.05 0.05 <0.01 0.01	1.16 1.16 0.16 0.22 0.22 0.02 0.05	0.26 0.26 0.04 0.05 0.05 <0.01 0.01	1.16 1.16 0.16 0.22 0.22 0.02 0.05	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-7711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	

H-8711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-9711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	0.72 0.72 0.10 0.13 0.13 0.01 <0.01	3.15 3.15 0.43 0.59 0.59 0.05 0.01	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-10711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-11711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-12711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-13711	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	0.42 0.42 0.06 0.08 0.08 0.01 0.02	1.86 1.86 0.25 0.35 0.35 0.02 0.07	Gas/Vapor	O (Manufacturer Data/AP-42)	

H-8712	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.29 0.29 0.04 0.05 0.05 <0.01 0.01	1.26 1.26 0.17 0.23 0.23 0.02 0.05	0.29 0.29 0.04 0.05 0.05 <0.01 0.01	1.26 1.26 0.17 0.23 0.23 0.02 0.05	Gas/Vapor	O (Manufacturer Data/AP-42)	
D1-H-782	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx **CO** VOC PM_{10} PM Total SO_2 n-Hexane	4.77 **4.77** 0.63 0.86 0.86 0.07 0.19	20.88 **20.88** 2.74 3.78 3.78 0.30 0.81	4.77 **4.77** 0.63 0.86 0.86 0.07 0.19	20.88 **20.88** 2.74 3.78 3.78 0.30 0.81	Gas/Vapor	O (Manufacturer Data/AP-42)	
D1-H-741	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.50 0.51 0.07 0.16 0.16 0.01 0.02	2.19 2.24 0.30 0.71 0.71 0.03 0.09	0.50 0.51 0.07 0.16 0.16 0.01 0.02	2.19 2.24 0.30 0.71 0.71 0.03 0.09	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-10768	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	2.62 2.62 0.35 0.12 0.49 0.03 0.10	11.46 11.46 1.55 0.53 2.14 0.15 0.46	2.62 2.62 0.35 0.12 0.49 0.03 0.10	11.46 11.46 1.55 0.53 2.14 0.15 0.46	Gas/Vapor	O (Manufacturer Data/AP-42)	
H-10775	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.24 0.24 0.03 0.05 0.05 <0.01 0.01	1.06 1.06 0.14 0.20 0.20 0.01 0.04	0.24 0.24 0.03 0.05 0.05 <0.01 0.01	1.06 1.06 0.14 0.20 0.20 0.01 0.04	Gas/Vapor	O (Manufacturer Data/AP-42)	
DE3 H-768	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	2.62 2.62 0.35 0.49 0.49 0.03 0.10	11.46 11.46 1.54 2.13 2.13 0.15 0.46	2.62 2.62 0.35 0.49 0.49 0.03 0.10	11.46 11.46 1.54 2.13 2.13 0.15 0.46	Gas/Vapor	O (Manufacturer Data/AP-42)	

DE3 H-775	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO VOC PM_{10} PM Total SO_2 n-Hexane	0.24 0.24 0.03 0.04 0.04 <0.01 0.01	1.04 1.04 0.14 0.19 0.19 0.01 0.04	0.24 0.24 0.03 0.04 0.04 <0.01 0.01	1.04 1.04 0.14 0.19 0.19 0.01 0.04	Gas/Vapor	O (Manufacturer Data/AP-42)	
FL-DH	Vert St Rain CP	Same	Same	N/A	None	N/A	N/A	NOx CO PM_{10} PM Total SO_2	0.50 2.19 <0.01 <0.01 <0.01	2.17 9.58 0.01 0.01 <0.01	0.50 2.19 <0.01 <0.01 <0.01	2.17 9.58 0.01 0.01 <0.01	Gas/Vapor	AP-42	-
BD-1	Blowdown /Venting to Atm	Same	Same	N/A	None	N/A	N/A	VOC HAP		2.82 0.05		2.82 0.05	Gas/Vapor	Engineering Estimate	-
RP	Fugitives	Same	Same	N/A	None	N/A	N/A	VOC HAP	1.20 0.01	5.25 0.02	1.20 0.01	5.25 0.02	Gas/Vapor	Engineering Estimate	-
CB-1	Crankcase Blowby	Same	Same	N/A	None	N/A	N/A	VOC HAP	0.57 0.01	2.48 0.05	0.57 0.01	2.48 0.05	Gas/Vapor	Engineering Estimate	-
L-1	Closed Drain Loadout	Same	Same	N/A	Flare	N/A	N/A	VOC HAP	1.21 0.07	5.28 0.33	0.04 <0.01	0.17 0.10	Gas/Vapor	Engineering Estimate	-
L-2	Condensat e Tank Loadout	Same	Same	N/A	Flare	N/A	N/A	VOC HAP	0.56 0.03	2.44 0.15	0.02 <0.01	0.08 <0.01	Gas/Vapor	Engineering Estimate	-
MT-1	Methanol Tanks	Same	Same	N/A	None	N/A	N/A	VOC HAP	0.03 0.03	0.13 0.13	0.03 0.03	0.13 0.13	Gas/Vapor	Engineering Estimate	-

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. (°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
CM-1001	**1.5**	**856**	**32,100**	**302.7**	**1,235**	**45 (est.)**	**4346.885**	**526.921**
CM-1002	**1.5**	**856**	**32,100**	**302.7**	**1,235**	**45 (est.)**	**4346.885**	**526.921**
CM-2001	**1.5**	**857**	**16,098**	**151.8**	**1,235**	**45 (est.)**	**4346.885**	**526.921**
H-711	**2.5**	**550**	**115**	**0.4**	**1,235**	**15 (est.)**	**4346.885**	**526.921**
H-751	**2.5**	**550**	**115**	**0.4**	**1,235**	**15 (est.)**	**4346.885**	**526.921**
H-771a	**2.5**	**588**	**14,550 acfm**	**49.4**	**1,235**	**31.5**	**4346.885**	**526.921**
DH-001	**Unknown**	**212**	**149 scfm**	**Unknown**	**1,235**	**Unknown**	**4346.885**	**526.921**
RB-001	**Unknown**	**Unknown**	**Unknown**	**Unknown**	**1,235**	**Unknown**	**4346.885**	**526.921**
FS-762	**4.5**	**Unknown**	**135,011 scfm**	**141.4**	**1,235**	**195.0**	**4346.885**	**526.921**
TNK-001	**N/A**	**Ambient**	**N/A**	**N/A**	**1,235**	**N/A**	**4346.885**	**526.921**
FUG-001	**N/A**	**Ambient**	**N/A**	**N/A**	**1,235**	**N/A**	**4346.885**	**526.921**
H-2711	**2.5**	**550**	**115**	**0.4**	**1,235**	**15 (est.)**	**4346.885**	**526.921**
H-3711	**2.5**	**550**	**115**	**0.4**	**1,235**	**15 (est.)**	**4346.885**	**526.921**
H-4711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-5711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-6711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-4712	**2.5**	**550**	**Unknown**	**Unknown**	**1,235**	**15 (est)**	**4346.885**	**526.921**
H-6712	**2.5**	**550**	**Unknown**	**Unknown**	**1,235**	**15 (est)**	**4346.885**	**526.921**

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. (°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
H-7711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-8711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-9711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-10711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-11711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-12711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-13711	**2.5**	**530**	**79.6 acfm**	**0.27**	**1,235**	**24**	**4346.885**	**526.921**
H-8712	**2.5**	**550**	**Unknown**	**Unknown**	**1,235**	**15 (est)**	**4346.885**	**526.921**
D1-H-782	**7.5**	**560**	**26,242**	**9.90**	**1,235**	**80**	**4346.885**	**526.921**
D1-H-741	**2.0**	**550**	**7,714**	**40.9**	**1,235**	**20**	**4346.885**	**526.921**
H-10768	**7.5**	**560**	**26,242**	**9.90**	**1,235**	**80**	**4346.885**	**526.921**
H-10775	**2.0**	**550**	**7,714**	**40.9**	**1,235**	**20**	**4346.885**	**526.921**
DE3 H-768	**7.5**	**560**	**26,242**	**9.90**	**1,235**	**80**	**4346.885**	**526.921**
DE3 H-775	**2.0**	**550**	**7,714**	**40.9**	**1,235**	**20**	**4346.885**	**526.921**
FL-DH	**4.5**	**Unknown**	**135,011 scfm**	**141.4**	**1,235**	**195.0**	**4346.885**	**526.921**
RP	**N/A**	**Ambient**	**N/A**	**N/A**	**1,235**	**N/A**	**4346.885**	**526.921**
Note: Final equipment locations not yet determined; site UTM coordinates provided for each emission source.								

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

ATTACHMENT K: FUGITIVE EMISSIONS DATA SUMMARY SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process 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).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ☐ Yes ☒ No ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? ☐ Yes ☒ No ☐ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☒ Yes ☐ No ☒ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☒ Yes ☐ No ☒ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered “NO” to all of the items above, it is not necessary to complete the following table, “Fugitive Emissions Summary.”

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	**Not applicable**					
Unpaved Haul Roads	**Not applicable**					
Storage Pile Emissions	**Not applicable**					
Loading/Unloading Operations	**VOC** **HAP**	**0.06** **<0.01**	**0.30** **0.02**	**0.06** **<0.01**	**0.30** **0.02**	**EPA**
Wastewater Treatment Evaporation & Operations	**Not applicable**					
Equipment Leaks	**VOC** **HAP**	**3.77** **0.21**	**16.51** **0.91**	**3.77** **0.21**	**16.51** **0.91**	**EPA**
General Clean-up VOC Emissions	**Not applicable**					
Other	**Not applicable**					

[1] 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.

[2] Give 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).

[3] Give 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).

[4] 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).

ATTACHMENT L: EMISSION UNIT DATA SHEETS

Not applicable. No changes to Emission Unit Data Sheets.

ATTACHMENT M: AIR POLLUTION CONTROL DEVICE SHEET

Attachment M
Air Pollution Control Device Sheet
(FLARE SYSTEM)

Control Device ID No. (must match Emission Units Table): FL-762

Equipment Information

1. Manufacturer: Callidus

   Model No. N/A

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:
   135,011 scf/min
   8,100,054 scf/hr

6. Dimensions of stack:
   Diameter 4.5 ft.
   Height 195.0 ft.

7. Estimated combustion efficiency:
   (Waste gas destruction efficiency)
   Estimated: 99.90 %
   Minimum guaranteed: 98.00 %

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

9. Number of burners:
   Rating: 9,883 BTU/hr

10. Will preheat be used? ☐ Yes ☒ No

11. Describe method of controlling flame:

12. Flare height: 195 ft

13. Flare tip inside diameter: 4.5 ft

14. Natural gas flow rate to flare pilot flame per pilot light: 1.26 scf/min
    75.6 scf/hr

15. Number of pilot lights:
    Total 6 @ 85,000 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 pilots via thermocouple. Should the thermocouple sense a loss of flame, the flame front generator panel will go to a re-light cycle and send a common trouble alarm to the plant 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: 8,760 hours/yr. Flare only used in emergency conditions.

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
Propane	0	max 891,072 lb/hr	Pressure Relief Valve on Demethanizer
Ethane	0	Max 784,090 lb/hr	Pressure Relief Valve on DeEthanizer

30. Estimate total combustible to flare: 891,072 lb/hr @ 44 MW LB/hr or ACF/hr
(Maximum mass flow rate of waste gas) 160,000 scfm

31. Estimated total flow rate to flare including materials to be burned, carrier gases, auxiliary fuel, etc.:
891,124 lb/hr LB/hr or ACF/hr

32. Give composition of carrier gases:
Purge gas rate: 689 scfh @ 19 MW

33. Temperature of emission stream: °F Heating value of emission stream: BTU/ft^3 Mean molecular weight of emission stream: MW = 44 lb/lb-mole	34. Identify and describe all auxiliary fuels to be burned. N/A BTU/scf BTU/scf BTU/scf BTU/scf
35. Temperature of flare gas: °F	36. Flare gas flow rate: 135,011 scf/min
37. Flare gas heat content: 2,309 BTU/ft^3	38. Flare gas exit velocity: 141.5 ft/s = 43.1 m/s

39. Maximum rate during emergency for one major piece of equipment or process unit: 135,011 scf/min

40. Maximum rate during emergency for one major piece of equipment or process unit: 311 MMBTU/min

41. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):
The Gas Processing Facility has redundant controls and shutdown devices. Gas will be sent to flare only as a last option with a relief valve lifting and sending process gases to the flare system. It is not expected that there will be any flaring events, and any event that triggers the flare would shut down the plant so the emissions would occur for approximately 5 minutes or less.

42. Describe the collection material disposal system:
The flare collection system will consist of a 50 psig max. operating piping system including liquid knockouts and free draining pipe.

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:	RECORDKEEPING:
Thermocouple monitors pilot	None Proposed
REPORTING:	**TESTING:**
As required	Not applicable

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

MarkWest Liberty Midstream & Resources L.L.C.
Sherwood Gas Plant

Summary of Facility-Wide Potential Emissions

Criteria Pollutant Potential Emissions

Process/Facility	Potential Emissions (lb/hr)						
	NOx	CO	VOC	SO_2	PM[1]	HAPs	Lead
Compressor Engine #1 (CM-1001)	5.22	1.46	1.67	0.02	0.35	1.10	--
Compressor Engine #2 (CM-1002)	5.22	1.46	1.67	0.02	0.35	1.10	--
Compressor Engine (CM-2001)	2.61	0.73	1.46	0.01	0.16	0.46	--
Generator Engine	2.31	1.19	1.01	0.31	0.02	0.00	--
Regeneration Heater (H-711a)	0.26	0.53	0.047	0.0052	0.07	0.01	0.000
Regeneration Heater (H-2711a)	0.26	0.53	0.047	0.0052	0.07	0.01	0.000
Regeneration Heater (H-3711)	0.47	0.93	0.084	0.0092	0.12	0.03	0.000
Regeneration Heater (H-4711)	0.72	0.72	0.097	0.0106	0.13	0.03	0.000
Regeneration Heater (H-5711)	0.72	0.72	0.097	0.0106	0.13	0.03	0.000
Regeneration Heater (H-6711)	0.72	0.72	0.097	0.0106	0.13	0.03	0.000
Regeneration Heater (H-7711)	0.72	0.72	0.097	0.0106	0.13	0.03	0.000
Regeneration Heater (H-8711)	0.72	0.72	0.097	0.0106	0.13	0.03	0.000
Regeneration Heater (H-9711)	0.72	0.72	0.097	0.0106	0.13	0.03	0.000
Regeneration Heater (H-10711)	0.42	0.42	0.057	0.0057	0.08	0.02	0.000
Regeneration Heater (H-11711)	0.42	0.42	0.057	0.0057	0.08	0.02	0.000
Regeneration Heater (H-12711)	0.42	0.42	0.057	0.0057	0.08	0.02	0.000
Regeneration Heater (H-13711)	0.42	0.42	0.057	0.0057	0.08	0.02	0.000
Hot Oil Heater (H-771a)	0.98	1.97	0.177	0.0193	0.24	0.06	0.000
Stabilizer Heater (H-751)	0.25	0.25	0.034	0.0034	0.05	0.01	0.000
Hot Oil Heater (H-4712)	0.26	0.26	0.035	0.0039	0.05	0.01	0.000
Hot Oil Heater (H-6712)	0.26	0.26	0.035	0.0039	0.05	0.01	0.000
Hot Oil Heater (H-8712)	0.29	0.29	0.039	0.0042	0.05	0.01	0.000
DeEth HMO (D1-H-782)	4.77	4.77	0.625	0.0681	0.86	0.19	0.000
DeEth Regen (D1-H-741)	0.50	0.51	0.067	0.0074	0.16	0.02	0.000
DeEth II HMO (H-10768)	2.62	2.62	0.353	0.0349	0.49	0.11	0.000
DeEth II Regen (H-10775)	0.24	0.24	0.033	0.0032	0.05	0.01	0.000
DeEth III HMO (DE3 H-768)	2.62	2.62	0.353	0.03	0.49	0.11	0.000
DeEth III Regen (DE3 H-775)	0.24	0.24	0.032	0.0032	0.04	0.01	0.000
TEG Dehydration Unit (DH-001)	--	--	1.868	--	--	0.50	--
Dehydration Unit Reboiler (RB-001)	0.20	0.16	0.011	0.0012	0.01	0.00	--
Storage Tanks	--	--	0.68	--	--	0.02	--
Methanol Tanks	--	--	0.03	--	--	0.03	--
Main Process/Emergency Flare (FS-762)	140.81	641.93	--	0.00	0.00	--	--
Dehydration Unit Flare (FL-DH)	0.50	2.19	--	0.00	0.00	--	--
Facility Blowdowns	--	--	--	--	--	--	--
Fugitive Emissions (FUG-001)	--	--	3.770	--	--	0.21	--
Facility Truck Loadout Rack	--	--	1.84	--	--	--	--
Inlet Condensate Loadout	--	--	1.38	--	--	--	--
Rod Packing Emissions	--	--	1.20	--	--	0.01	--
Crankcase Emissions	--	--	0.567	--	--	0.01	--
Site Wide Emissions (lb/hr)	176.91	671.16	19.93	0.66	4.80	4.31	0.00

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

MarkWest Liberty Midstream & Resources L.L.C.
Sherwood Gas Plant

Summary of Facility-Wide Potential Emissions

Criteria Pollutant Potential Emissions

Process/Facility	Potential Emissions (tpy)						
	NOx	CO	VOC	SO_2	PM[1]	HAPs	Lead
Compressor Engine #1 (CM-1001)	22.86	6.40	7.32	0.09	1.55	4.84	--
Compressor Engine #2 (CM-1002)	22.86	6.40	7.32	0.09	1.55	4.84	--
Compressor Engine (CM-2001)	11.44	3.20	6.41	0.04	0.69	2.02	--
Generator Engine	0.58	0.30	0.25	0.08	0.01	0.00	--
Regeneration Heater (H-711a)	1.15	2.30	0.21	0.023	0.29	0.064	0.000
Regeneration Heater (H-2711a)	1.15	2.30	0.21	0.023	0.29	0.064	0.000
Regeneration Heater (H-3711)	2.05	4.09	0.37	0.040	0.51	0.115	0.000
Regeneration Heater (H-4711)	3.15	3.15	0.43	0.046	0.59	0.132	0.000
Regeneration Heater (H-5711)	3.15	3.15	0.43	0.046	0.59	0.132	0.000
Regeneration Heater (H-6711)	3.15	3.15	0.43	0.046	0.59	0.132	0.000
Regeneration Heater (H-7711)	3.15	3.15	0.43	0.046	0.59	0.132	0.000
Regeneration Heater (H-8711)	3.15	3.15	0.43	0.046	0.59	0.132	0.000
Regeneration Heater (H-9711)	3.15	3.15	0.43	0.046	0.59	0.132	0.000
Regeneration Heater (H-10711)	1.86	1.86	0.251	0.0248	0.35	0.078	0.000
Regeneration Heater (H-11711)	1.86	1.86	0.251	0.0248	0.35	0.078	0.000
Regeneration Heater (H-12711)	1.86	1.86	0.251	0.0248	0.35	0.078	0.000
Regeneration Heater (H-13711)	1.86	1.86	0.251	0.0248	0.35	0.078	0.000
Hot Oil Heater (H-771a)	4.30	8.61	0.774	0.0844	1.07	0.241	0.000
Stabilizer Heater (H-751)	1.11	1.11	0.150	0.0148	0.21	0.047	0.000
Hot Oil Heater (H-4712)	1.15	1.15	0.155	0.0170	0.21	0.048	0.000
Hot Oil Heater (H-6712)	1.15	1.15	0.16	0.017	0.21	0.048	0.000
Hot Oil Heater (H-8712)	1.26	1.26	0.17	0.019	0.23	0.053	0.000
DeEth HMO (D1-H-782)	20.88	20.88	2.736	0.2984	3.78	0.852	0.000
DeEth Regen (D1-H-741)	2.19	2.24	0.295	0.0322	0.71	0.092	0.000
DeEth II HMO (H-10768)	11.46	11.46	1.545	0.1530	2.14	0.481	0.000
DeEth II Regen (H-10775)	1.06	1.06	0.143	0.0141	0.20	0.045	0.000
DeEth III HMO (DE3 H-768)	11.46	11.46	1.545	0.15	2.13	0.48	0.000
DeEth III Regen (DE3 H-775)	1.04	1.04	0.140	0.0139	0.19	0.044	0.000
TEG Dehydration Unit (DH-001)	--	--	8.184	--	--	2.187	--
Dehydration Unit Reboiler (RB-001)	0.86	0.72	0.047	0.0052	0.07	0.015	--
Storage Tanks	--	--	2.99	--	--	0.08	--
Methanol Tanks	--	--	0.13	--	--	0.13	--
Main Process/Emergency Flare (FS-762)	14.72	67.11	--	0.00	0.01	--	--
Dehydration Unit Flare (FL-DH)	2.17	9.58	--	0.00	0.01	--	--
Facility Blowdowns	--	--	29.606	--	--	0.571	--
Fugitive Emissions (FUG-001)	--	--	16.51	--	--	0.914	--
Facility Truck Loadout Rack	--	--	0.222	--	--	--	--
Inlet Condensate Loadout	--	--	0.080	--	--	0.005	--
Rod Packing Emissions	--	--	5.245	--	--	0.024	--
Crankcase Emissions	--	--	2.48	--	--	0.048	--
Site Wide Emissions (tpy)	**163.28**	**190.21**	**98.93**	**1.59**	**20.96**	**19.46**	**0.001**

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

MarkWest Liberty Midstream & Resources L.L.C.
Sherwood Gas Plant

Summary of Facility-Wide Potential Emissions

Hazardous Air Pollutant Potential Emissions

Process/Facility	HAPs - Potential Emissions (lb/hr)								
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Methanol
Compressor Engine #1 (CM-1001)	1.56E-02	1.41E-03	1.45E-02	6.52E-03	3.93E-02	4.18E-01	2.96E-01	1.82E-01	8.86E-02
Compressor Engine #2 (CM-1002)	1.56E-02	1.41E-03	1.45E-02	6.52E-03	3.93E-02	4.18E-01	2.96E-01	1.82E-01	8.86E-02
Compressor Engine (CM-2001)	6.91E-03	6.24E-04	6.41E-03	2.89E-03	1.74E-02	1.57E-01	1.31E-01	8.08E-02	3.93E-02
Generator Engine	9.48E-04	--	4.16E-04	2.90E-04	--	1.20E-03	7.80E-04	9.40E-05	--
Regeneration Heater (H-711a)	1.64E-05	--	2.65E-05	--	1.40E-02	5.85E-04	--	--	--
Regeneration Heater (H-2711a)	1.64E-05	--	2.65E-05	--	1.40E-02	5.85E-04	--	--	--
Regeneration Heater (H-3711)	2.91E-05	--	4.71E-05	--	2.49E-02	1.04E-03	--	--	--
Regeneration Heater (H-4711)	3.36E-05	--	5.44E-05	--	2.88E-02	1.20E-03	--	--	--
Regeneration Heater (H-5711)	3.36E-05	--	5.44E-05	--	2.88E-02	1.20E-03	--	--	--
Regeneration Heater (H-6711)	3.36E-05	--	5.44E-05	--	2.88E-02	1.20E-03	--	--	--
Regeneration Heater (H-7711)	3.36E-05	--	5.44E-05	--	2.88E-02	1.20E-03	--	--	--
Regeneration Heater (H-8711)	3.36E-05	--	5.44E-05	--	2.88E-02	1.20E-03	--	--	--
Regeneration Heater (H-9711)	3.36E-05	--	5.44E-05	--	2.88E-02	1.20E-03	--	--	--
Regeneration Heater (H-10711)	1.98E-05	--	3.21E-05	--	1.70E-02	7.09E-04	--	--	--
Regeneration Heater (H-11711)	1.98E-05	--	3.21E-05	--	1.70E-02	7.09E-04	--	--	--
Regeneration Heater (H-12711)	1.98E-05	--	3.21E-05	--	1.70E-02	7.09E-04	--	--	--
Regeneration Heater (H-13711)	1.98E-05	--	3.21E-05	--	1.70E-02	7.09E-04	--	--	--
Hot Oil Heater (H-771a)	6.12E-05	--	9.91E-05	--	5.25E-02	2.19E-03	--	--	--
Stabilizer Heater (H-751)	1.19E-05	--	1.92E-05	--	1.02E-02	4.24E-04	--	--	--
Hot Oil Heater (H-4712)	1.23E-05	--	1.99E-05	--	1.05E-02	4.39E-04	--	--	--
Hot Oil Heater (H-6712)	1.23E-05	--	1.99E-05	--	1.05E-02	4.39E-04	--	--	--
Hot Oil Heater (H-8712)	1.34E-05	--	1.99E-05	--	1.05E-02	4.39E-04	--	--	--
DeEth HMO (D1-H-782)	2.16E-04	--	3.50E-04	--	1.85E-01	7.73E-03	--	--	--
DeEth Regen (D1-H-741)	2.33E-05	--	3.78E-05	--	2.00E-02	8.34E-04	--	--	--
DeEth II HMO (H-10768)	1.22E-04	--	1.98E-04	--	1.05E-01	4.37E-03	--	--	--
DeEth II Regen (H-10775)	1.13E-05	--	1.83E-05	--	9.69E-03	4.04E-04	--	--	--
DeEth III HMO (DE3 H-768)	1.22E-04	--	1.98E-04	--	1.05E-01	4.36E-03	--	--	--
DeEth III Regen (DE3 H-775)	1.11E-05	--	1.80E-05	--	9.51E-03	3.96E-04	--	--	--
TEG Dehydration Unit (DH-001)	2.62E-02	5.79E-02	1.37E-01	2.50E-01	2.86E-02	--	--	--	--
Dehydration Unit Reboiler (RB-001)	3.74E-06	--	6.05E-06	--	3.20E-03	1.33E-04	--	--	--
Storage Tanks	4.09E-04	1.08E-04	1.16E-03	7.66E-04	1.49E-02	--	--	--	--
Methanol Tanks	--	--	--	--	--	--	--	--	--
Main Process/Emergency Flare (FS-762)	--	--	--	--	--	--	--	--	--
Dehydration Unit Flare (FL-DH)	--	--	--	--	--	--	--	--	--
Facility Blowdowns	--	--	--	--	--	--	--	--	--
Fugitive Emissions (FUG-001)	--	--	--	--	--	--	--	--	--
Facility Truck Loadout Rack	--	--	--	--	--	--	--	--	--
Inlet Condensate Loadout	--	--	--	--	--	--	--	--	--
Rod Packing Emissions	--	--	--	--	--	--	--	--	--
Crankcase Emissions	2.97E-04	0.00E+00	1.75E-04	2.02E-04	1.03E-02	--	--	--	--
Site Wide Emissions (tpy)	**0.07**	**0.06**	**0.18**	**0.27**	**0.98**	**1.03**	**0.72**	**0.45**	**0.22**

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

MarkWest Liberty Midstream & Resources L.L.C.
Sherwood Gas Plant

Summary of Facility-Wide Potential Emissions

Hazardous Air Pollutant Potential Emissions

Process/Facility	HAPs - Potential Emissions (tpy)								
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde	Acetaldehyde	Acrolein	Methanol
Compressor Engine #1 (CM-1001)	6.83E-02	6.16E-03	6.33E-02	2.86E-02	1.72E-01	1.83E+00	1.30E+00	7.98E-01	3.88E-01
Compressor Engine #2 (CM-1002)	6.83E-02	6.16E-03	6.33E-02	2.86E-02	1.72E-01	1.83E+00	1.30E+00	7.98E-01	3.88E-01
Compressor Engine (CM-2001)	3.03E-02	2.73E-03	2.81E-02	1.27E-02	7.64E-02	6.87E-01	5.75E-01	3.54E-01	1.72E-01
Generator Engine	2.37E-04	--	1.04E-04	7.24E-05	--	3.00E-04	1.95E-04	2.35E-05	--
Regeneration Heater (H-711a)	7.17E-05	--	1.16E-04	--	6.14E-02	2.56E-03	--	--	--
Regeneration Heater (H-2711a)	7.17E-05	--	1.16E-04	--	6.14E-02	2.56E-03	--	--	--
Regeneration Heater (H-3711)	1.27E-04	--	2.06E-04	--	1.09E-01	4.55E-03	--	--	--
Regeneration Heater (H-4711)	1.47E-04	--	2.38E-04	--	1.26E-01	5.26E-03	--	--	--
Regeneration Heater (H-5711)	1.47E-04	--	2.38E-04	--	1.26E-01	5.26E-03	--	--	--
Regeneration Heater (H-6711)	1.47E-04	--	2.38E-04	--	1.26E-01	5.26E-03	--	--	--
Regeneration Heater (H-7711)	1.47E-04	--	2.38E-04	--	1.26E-01	5.26E-03	--	--	--
Regeneration Heater (H-8711)	1.47E-04	--	2.38E-04	--	1.26E-01	5.26E-03	--	--	--
Regeneration Heater (H-9711)	2.68E-04	--	4.34E-04	--	2.30E-01	9.57E-03	--	--	--
Regeneration Heater (H-10711)	8.69E-05	--	1.41E-04	--	7.45E-02	3.10E-03	--	--	--
Regeneration Heater (H-11711)	8.69E-05	--	1.41E-04	--	7.45E-02	3.10E-03	--	--	--
Regeneration Heater (H-12711)	8.69E-05	--	1.41E-04	--	7.45E-02	3.10E-03	--	--	--
Regeneration Heater (H-13711)	8.69E-05	--	1.41E-04	--	7.45E-02	3.10E-03	--	--	--
Hot Oil Heater (H-771a)	2.68E-04	--	4.34E-04	--	2.30E-01	9.57E-03	--	--	--
Stabilizer Heater (H-751)	5.20E-05	--	8.41E-05	--	4.45E-02	1.86E-03	--	--	--
Hot Oil Heater (H-4712)	5.38E-05	--	8.72E-05	--	4.61E-02	1.92E-03	--	--	--
Hot Oil Heater (H-6712)	5.38E-05	--	8.72E-05	--	4.61E-02	1.92E-03	--	--	--
Hot Oil Heater (H-8712)	5.88E-05	--	9.52E-05	--	5.04E-02	2.10E-03	--	--	--
DeEth HMO (D1-H-782)	9.48E-04	--	1.53E-03	--	8.12E-01	3.39E-02	--	--	--
DeEth Regen (D1-H-741)	1.02E-04	--	1.66E-04	--	8.77E-02	3.65E-03	--	--	--
DeEth II HMO (H-10768)	5.35E-04	--	8.67E-04	--	4.59E-01	1.91E-02	--	--	--
DeEth II Regen (H-10775)	4.95E-05	--	8.02E-05	--	4.24E-02	1.77E-03	--	--	--
DeEth III HMO (DE3 H-768)	5.35E-04	--	8.66E-04	--	4.59E-01	1.91E-02	--	--	--
DeEth III Regen (DE3 H-775)	4.86E-05	--	7.87E-05	--	4.17E-02	1.74E-03	--	--	--
TEG Dehydration Unit (DH-001)	1.15E-01	2.54E-01	6.00E-01	1.09E+00	1.25E-01	--	--	--	--
Dehydration Unit Reboiler (RB-001)	1.64E-05	--	2.65E-05	--	1.40E-02	5.85E-04	--	--	--
Storage Tanks	1.79E-03	4.73E-04	5.09E-03	3.35E-03	6.54E-02	--	--	--	--
Methanol Tanks	--	--	--	--	--	--	--	--	--
Main Process/Emergency Flare (FS-762)	--	--	--	--	--	--	--	--	--
Dehydration Unit Flare (FL-DH)	--	--	--	--	--	--	--	--	--
Facility Blowdowns	--	--	--	--	--	--	--	--	--
Fugitive Emissions (FUG-001)	--	--	--	--	--	--	--	--	--
Facility Truck Loadout Rack	--	--	--	--	--	--	--	--	--
Inlet Condensate Loadout	--	--	--	--	--	--	--	--	--
Rod Packing Emissions	--	--	--	--	--	--	--	--	--
Crankcase Emissions	1.30E-03	0.00E+00	7.67E-04	8.84E-04	4.52E-02	--	--	--	--
Site Wide Emissions (tpy)	**0.29**	**0.27**	**0.77**	**1.17**	**4.38**	**4.50**	**3.17**	**1.95**	**0.95**

MarkWest Liberty Midstream & Resources L.L.C.
Sherwood Gas Plant

Summary of Facility-Wide Potential Emissions

GreenHouse Gas Emissions

Process/Facility	GHG $CO_2(e)$ tpy
Compressor Engines	45437.0
Heaters	266154.4
Dehydration Unit	459.8
Storage Tanks	1554.0
Facility Blowdowns	4715.1
Rodpacking	10208.5
Fugitive Emissions (FUG-001)	478.5
Site Wide Emissions (lb/hr)	**329007.36**

MarkWest Liberty Midstream & Resources L.L.C.
Sherwood Gas Plant

Summary of Potential Emissions

Criteria Pollutant Potential Emissions

Process/Facility	Potential Emissions (lb/hr)					
	NOx	CO	VOC	SO_2	PM[1]	HAPs
Previous Permit	176.91	671.16	19.93	0.66	4.80	4.31
Current Permit Application	176.91	671.16	19.93	0.66	4.80	4.31
Difference in Site-Wide Emissions (lb/hr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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

Process/Facility	Potential Emissions (tpy)					
	NOx	CO	VOC	SO_2	PM[1]	HAPs
Previous Permit	159.44	172.69	91.94	1.59	20.96	19.32
Current Permit Application	163.28	190.21	98.93	1.59	20.96	19.46
Difference in Site-Wide Emissions (lb/hr)	**3.84**	**17.51**	**6.99**	**0.00**	**0.00**	**0.13**

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

Hazardous Air Pollutant Potential Emissions

Process/Facility	HAPs - Potential Emissions (lb/hr)					
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde
Previous Permit	6.69E-02	6.14E-02	1.76E-01	2.67E-01	9.76E-01	1.03E+00
Current Permit Application	6.69E-02	6.14E-02	1.76E-01	2.67E-01	9.76E-01	1.03E+00
Difference in Site-Wide Emissions (lb/hr)	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**

Process/Facility	HAPs - Potential Emissions (tpy)					
	Benzene	Ethylbenzene	Toluene	Xylenes	n-Hexane	Formaldehyde
Previous Permit	2.89E-01	2.69E-01	7.68E-01	1.17E+00	4.38E+00	4.50E+00
Current Permit Application	2.89E-01	2.69E-01	7.68E-01	1.17E+00	4.38E+00	4.50E+00
Difference in Site-Wide Emissions (lb/hr)	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**

Greenhouse Gas Potential Emissions

Process/Facility	GHG
	$CO_{2(}e)$ (tpy)
Previous Permit	329007.36
Current Permit Application	329007.36
Difference in Site-Wide Emissions (lb/hr)	**0.00**

MarkWest Liberty Midstream and Resources, L.L.C.
Sherwood Gas Plant - Plant Flare (FS-762)

Source Designation:	
Manufacturer:	
Operating Hours: (hr/yr)	8,760
Pilot + Purge Gas Heat Input (MMBtu/hr)	0.243
Pilot + Purge Gas Annual Fuel Use (mmscf/yr)	1.752
Pilot Fuel Consumption (mmscf/hr):	1.00E-04
Purge Fuel Consumption (mmscf/hr):	1.00E-04
Fuel HHV (Btu/scf)	1,215

Pollutant	AP-42 Emission Factor (lb/mmscf)[a]	Corrected Factor (lb/mmscf)[a]
NO_X	100	119.1
CO	84	100.1
SO_2	0.6	0.7
PM Total	7.6	9.1
PM Condensable	5.7	6.8
PM_{10} (Filterable)	1.9	2.3
$PM_{2.5}$ (Filterable)	1.9	2.3

[a] Emission factors from AP-42 Section 1.4 "Natural Gas Combustion" Tables 1.4-1 corrected for site-specific gas heat content.

[b] Emission Rate (lb/hr) = Rated Capacity (MMscf/hr) × Emission Factor (lb/MMscf).

[c] Annual Emissions $(tons/yr)_{Potential} = (lb/hr)_{Emissions}$ × (Maximum Allowable Operating Hours, 8760 hr/yr) × (1 ton/2000 lb).

Combustion of Hydrocarbons

Source Designation:	
Hourly Gas Flow (scf/hr)	1,674,000
Annual Gas Flow (mmscf/yr)	350.00
Heating value (btu/scf)	1,237.00
Maximum Heat Release of Flare (mmbtu/hr)	2070.7
Maximum Heat Release of Flare (mmbtu/yr)	432,950
NO_X Emission Rate (lb/mmbtu)	0.068
CO Emission Rate (lb/mmbtu)	0.31

[a] Emission factors from AP-42 Section 13.5 "Industrial Flares" Table 13.5-1

Total Emissions

Pollutant	lb/hr	tpy
NO_X	140.8102	14.7203
CO	641.9288	67.1073
SO_2	0.0001	0.0006
PM Total	0.0018	0.0079
PM Condensable	0.0014	0.0059
PM_{10} (Filterable)	0.0005	0.0020
$PM_{2.5}$ (Filterable)	0.0005	0.0020

ATTACHMENT O: MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

MarkWest Liberty M&R, L.L.C. is not submitting any proposed plans other than those recommendations noted in Emissions Unit Data Sheets (Attachment L).

ATTACHMENT P: PUBLIC NOTICE

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that MarkWest Liberty Midstream and Resources L.L.C. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a permit modification for the Sherwood Gas Plant, located at Doddridge County, West Virginia.

The facility is currently authorized under R30-01700034-2023. The latitude and longitude of the facility address is: N 39° 16' 21" W80° 41' 08". The update will result in changes to the potential to emit of the following Regulated Air Pollutants as follows:

Nitrogen Oxides (NOx)	+3.84	tons/yr
Carbon Monoxide (CO)	+17.51	tons/yr
Volatile Organic Compounds (VOC)	+6.99	tons/yr
Particulate Matter (PM)	0.00	tons/yr
Sulfur Dioxide (SO_2)	0.00	tons/yr
Total HAPs	+0.13	tons/yr

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. Written comments will also be received via email at DEPAirQualityPermitting@WV.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 41281, during normal business hours.

Dated the 7th of March 2024

By: MarkWest Liberty Midstream & Resources, L.L.C.
Alexandra M. Juarez
Environmental Engineer
4600 J Barry Court, Suite 500
Canonsburg, PA 15317

ATTACHMENT Q: CLAIMS OF CONFIDENTIALITY

MarkWest Liberty Midstream & Resources L.L.C. makes no claim of business confidentiality associated with this application.

ATTACHMENT R: AUTHORITY FORMS

Not applicable when application is signed by the Responsible Official.

ATTACHMENT S: TITLE V PERMIT REVISION INFORMATION

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary

Mark all applicable requirements associated with the changes involved with this permit revision:

☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS (Subpart(s)_____)	☐ Section 112(d) MACT standards (Subpart(s)_____)
☐ 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) (1)
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)

(1) If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why **Compliance Assurance Monitoring** is not applicable:

The pre-control potential-to-emit of emission units affected by this modification are below major source thresholds and thus not subject to CAM.

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

Please see Attachment D: Regulatory Discussion of the application.

☐ **Permit Shield Requested** *(not applicable to Minor Modifications)* N/A

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

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☐ Yes ☒ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

Suggested revisions to the Title V draft permit are to replace Hot Oil Heater H-771 (30.04 MMBtu/hr) with Hot Oil Heater H-771a (32.76 MMBtu/hr), update the heater emission totals to account for the H-771 replacement and revised CO emission factor on DeEth HMO Heater (D1-H-781), make administrative updates to the Emission Unit and Control Devices table in Section 1.1, and update OOOOa LDAR Program applicability in Section 8.

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R30-01700034-2023	July 11, 2023	Section 8.1.3.g. Section 8.1.3.h.
R13-2914K	November 6, 2023	Section 8.1.3.g. Section 8.1.3.h.

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
	/ /	
	/ /	
	/ /	

6. Change in Potential Emissions	
Pollutant	Change in Potential Emissions (+ or -), TPY
NOx	+3.84
CO	+17.51
VOC	+6.99
PM	+0.00
SO_2	+0.00
Total HAPs	+0.13
All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.	

7. Certification For Use Of Minor Modification Procedures ***(Required Only for Minor Modification Requests)***

Note: *This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;

ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;

iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;

v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;

vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed): _____ *(Please use blue ink)* Date: 5 / 09 / 24 *(Please use blue ink)*

Named (typed): William F. Uhl Title: Operations Director

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☐	Suggested Title V Draft Permit Language

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

APPLICATION FEE

Per 45CSR13 and 45CSR22, Title 45, Series 22, Section 3.4.a, a fee of $1,000 must be submitted for the modification application fee and $1,000 for the NSPS Requirements fee, respectively.