



May 19, 2016

**BY U.S. MAIL, RETURN RECEIPT REQUESTED**

9590 9401 0103 5168 7644 17

William F. Durham  
Director, Division of Air Quality  
WVDEP  
601 57<sup>th</sup> Street  
Charleston, WV 25304

**RE: Dominion Transmission, Inc. – Title V Renewal Application**  
**Hastings Extraction Plant – R30-10300009-2011**

Dear Mr. Durham:

Enclosed please find the Title V Renewal Application for Dominion Transmission, Inc.'s Hastings Extraction Plant (HEP), Permit No. R30-10300009-2011. The enclosure consists of one hard copy and two cd copies of the application that includes all attachments.

As part of the renewal application, the equipment list has been updated based on recent updates to the HEP Permit (R30-10300009-2011 (MM01)) and the facility's R13 permit application dated August 19, 2015 in response to Consent Order No. CO-R13-E-2015-13, and includes sources from HEP, Galmish, and Hastings Electric Compressor Station (HECS):

- Equipment removed from the facility
  - BL02 – Cleaver Brooks 16.75 MMBtu/hr natural gas-fired boiler
- Equipment to be added to the permit:
  - BL03 – Superior 25.2 MMBtu/hr natural gas-fired boiler
  - VS-1 – Plant wide vented emissions and emergency vent relief (including HEP and Galmish loading,). The vent stack is not considered an emission unit, but it is an emission point for various operations at the facility.
  - V-2195 – HECS knockout tank
  - T-3 – NGL Storage Tank
  - T-25 – n-Butane Storage Tank
  - M-1, M-2, and M-3 – Diesel Fuel Tanks
  - C-1 – Vapor recovery unit (VRU)

- Equipment to be modified under this permit:
  - LOAD – Truck and rail car loading operations at Galmish and the NGL unloading area (VS-1 when VRU is down for certain railcar loadings).

In addition, as part of the renewal application, we request the following changes to the Title V permit:

- The segment found in permit condition 6.1.2, under §63.6640, “How do I demonstrate continuous compliance with the emission limitations and operating limitations?”, relating to EN01, EN02, and AUX01, should be moved to the source specific requirements in Section 9.0, because Section 9.0 contains the source-specific requirements for EN01 and EN02. Additionally, AUX01 should be removed from the condition because AUX01 was removed from the facility.
- Permit condition 6.1.1 states emission unit 002-02 (AUX02) is limited to 500 hours of operation per year. AUX03 and AUX04 are also emergency generators and should be added to this permit condition. Potential emissions for AUX03 and AUX04 are calculated assuming 500 hours per year instead of 8,760 hours per year.
- Permit conditions 7.1.2, 7.4.5, and 7.4.6 are facility-wide requirements and should be removed from the source-specific requirements in Section 7.0 and added to the facility-wide requirements in Section 3.0.
- Permit Condition 7.5.1 should be removed from the permit because the initial report has been submitted and no subsequent reporting is necessary.

If you require any additional information, please contact Joseph Pietro at (804) 273-4175 or via email at [Joseph.J.Pietro@dom.com](mailto:Joseph.J.Pietro@dom.com).

Sincerely,



Amanda B. Tornabene  
Director, Energy Infrastructure Environmental Services

jjp

**HASTINGS EXTRACTION PLANT  
DOMINION TRANSMISSION, INC.  
APPLICATION FOR RENEWAL OF TITLE V OPERATING PERMIT  
TITLE V OPERATING PERMIT NO: R30-10300009-2011**

**Dominion Transmission, Inc.**  
Hastings Extraction Plant  
Pine Grove, WV

**MAY 2016**

**DOMINION TRANSMISSION, INC.  
HASTINGS EXTRACTION PLANT**

**TITLE V OPERATING PERMIT RENEWAL APPLICATION**

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**ATTACHMENTS**

Attachment A: Area Map

Attachment B: Plot Plan

Attachment C: Process Flow Diagrams

Attachment D: Title V Equipment Table

Attachment E: Emission Unit Forms

Attachment G: Air Pollution Control Device Form

**\*\*Note:** There is no Attachment F or H for this permit application.

## TITLE V OPERATING PERMIT APPLICATION CHECKLIST FOR ADMINISTRATIVE COMPLETENESS

Requirement	Application
One signed copy of the application (per WVDEP email correspondence 4/16/15)	Enclosed – Section 2
Correct number of copies of the application on separate CDs or diskettes, (i.e. at least one disc per copy)	Enclosed – 2 CDs
*Table of Contents (needs to be included but not for administrative completeness)	Table of Contents
Facility Information	Section 1/Section 2
Description of process and products, including NAICS and SIC codes, and including alternative operating scenarios	Section 1 / Section 2: TV Renewal Application Form Section #14
Area map showing plant location	Attachment A
Plot plan showing buildings and process areas	Attachment B
Process flow diagram(s), showing all emission units, control equipment, emission points, and their relationships	Attachment C
Identification of all applicable requirements with a description of the compliance status, the methods used for demonstrating compliance, and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the source is not in compliance	Not Applicable
Listing of all active permits and consent orders (if applicable)	Section 2: TV Renewal Application Form Section #21

Facility-wide emissions summary	Section 2: TV Renewal Application Form Section #23
Identification of Insignificant Activities	Section 2: TV Renewal Application Form Section #24
ATTACHMENT D – Title V Equipment Table completed for all emission units at the facility except those designated as insignificant activities	Attachment D
ATTACHMENT E – Emission Unit Form completed for each emission unit listed in the Title V Equipment Table (ATTACHMENT D) and a Schedule of Compliance Form (ATTACHMENT F) for all requirements for which the emission unit is not in compliance	Attachment E  Attachment F not applicable
ATTACHMENT G – Air Pollution Control Device Form completed for each control device listed in the Title V Equipment Table (ATTACHMENT D)	Attachment G
ATTACHMENT H – Compliance Assurance Monitoring (CAM) Plan Form completed for each new control device for which the “Is the device subject to CAM?” question is answered “Yes” on the Air Pollution Control Device Form (ATTACHMENT G)	Attachment H not applicable
General Application Forms signed by a Responsible Official	Enclosed – Section 2
Confidential Information submitted in accordance with 45CSR31	Not Applicable

## **SECTION 1**

### Introduction

## **INTRODUCTION:**

Dominion Transmission, Inc. (DTI) owns and operates the Hastings Extraction Plant (HEP), Galmish Loading Area (Galmish), Hastings Electric Compressor Station (HECS), and Slug Catcher Area. The Facilities are located in Pine Grove, Wetzel County, West Virginia. Operations at the HEP and Galmish are covered under existing Title V Operating Permit No. R30-10300009-2011 (expires on November 22, 2016), which was modified on March 10, 2015 to incorporate R13 Permit No. R13-2468D. DTI submitted an R13 application on August 19, 2015, which requested that several sources, including sources at the HECS and Slug Catcher Area, be included in Title V Operating Permit No. R30-10300009. This renewal application reflects the Facilities as represented in the August 19, 2015 R13 application.

The HEP is a natural gas liquids extraction facility that receives natural gas from the HECS (which compresses gas entering and exiting the HEP), and extracts propane, isobutane, n-butane, and natural gasoline. Galmish, which is located approximately 3 miles by road from HEP, and is within its own separate fence, handles truck and railcar loadout of isobutane, n-butane, and propane as well as railcar loadout of natural gasoline. At the Slug Catcher Area, drip fluids from three natural gas pipelines are collected and stored in four (4) 30,000 gallon tanks. Flash gas from the tanks is captured and compressed back to the pipeline, while the liquids are pumped to HECS before being transferred into a storage tank at the HEP.

The Facilities have the potential to emit in excess of 100 tons per year of volatile organic compounds (VOCs). As such, the Facilities are classified as a major stationary source under West Virginia Department of Environmental Protection (WVDEP) Regulation (45 CSR Part 30) and subject to the Title V Operating Permit provisions thereof. The Facilities are an area source of hazardous air pollutants (HAPs) since the potential to emit is less than 10 tons per year for individual HAPs and less than 25 tons per year of combined HAPs.

## **PROCESS DESCRIPTION**

HEP is a natural gas liquid extraction facility that receives natural gas from HECS and extracts propane, isobutane, n-butane, and natural gasoline. Various equipment is involved in this process including a deethanizer, depropanizer, debutanizer, C4 splitter, and drip gasoline fractionators.

The lighter constituents (i.e., primarily methane and ethane) are first removed and routed to HECS as residue gas. The extracted liquid (propane, isobutane, n-butane, and natural gasoline) is pumped from the bottom of the deethanizer to the fractionation section of HEP. The first fractionation column is the depropanizer, where propane is separated from the liquids and sent to storage at Galmish or into a pipeline which interconnects with a third-party pipeline. The liquids are sent to the debutanizer where natural gasoline is recovered from the bottom and butanes (isobutane and n-butane) are removed overhead. The butanes are sent to the C4 splitter to separate the two isomers and then sent to storage at Galmish. Natural gasoline is stored nearby, pumped into a pipeline for storage at another location, or pumped into a pipeline for loading directly into railcars at Galmish.

The Galmish loading facility includes truck and railcar loading of isobutane, n-butane, propane, and railcar loading of natural gasoline. A vapor recovery system is used during the railcar loading of isobutane, n-butane, and natural gasoline with a 95% control efficiency of emissions.



Propane loading of rail cars is vapor balanced with the storage tanks. The vapor recovery system is powered by an electric compressor and the recovered product is processed by HEP. When the vapor recovery system is down, emissions from railcar loading are sent to the vent stack (VS-1). Propane, isobutane and n-butane truck loading uses internal condensing with no vent.

HECS compresses natural gas entering and exiting HEP. At HECS, two centrifugal compressors driven by electric motors compress the wet natural gas entering HEP (C-200) and the residue natural gas exiting HEP (C-300) before it enters the DTI pipeline. HECS is not specifically listed in any current operating permit and is included herein for completeness. The emissions from HECS are generally fugitive in nature, but also include emissions from the knockout tank (V-2195) which is included as an emissions point in this application. Note that the Knockout Tank is not an emission source, only an emission point.

The Slug Catcher Area collects drip fluids from three natural gas pipelines. The pipelines are pigged to remove liquids and the liquids are collected in the slug catcher. The drips from the slug catcher and a wet gas separator are transferred and stored in four (4) 30,000 gallon tanks. The water in the drips is gravity separated in the four tanks and sent to a waste tank. Any flash gas from the drip tanks is captured and compressed back to the pipeline. The liquids are pumped to HECS to remove water from the drip fluids using heat and gravity separation. The remaining drip fluids are transferred into a storage tank at HEP. The Slug Catcher Area is not specifically listed in any current operating permit and is included herein for completeness. The emissions from the Slug Catcher Area are fugitive.

The NGL Unloading/Loading Area uses equipment to unload NGL that is delivered by truck from other Dominion and third-party producers. The NGL is unloaded and stored in feed tanks before entering HEP at the depropanizer. Also, truck loading of natural gasoline may occur at the NGL Area.

The Vent Stack (VS-1) was installed sometime prior to 1974. This stack receives waste gas from various locations in HEP (e.g., blowdowns and upset events). The stack also is used to exhaust waste gas from the railcar loading operations at Galmish when the vapor recovery system is not operational. The Vent Stack is not specifically listed in any current operating permit and is included herein as an emission point for completeness. Note that the Vent Stack is not an emission source, only an emission point.

Listed below is a description of the equipment/emission points to be included in the Hastings Extraction Plant Title V Operating Permit:

Three (3) John Deere diesel fired Firewater Pumps located at Galmish

- Emission unit ID: 001-01 (300 HP), 001-02 (300 HP) and 001-03 (211 HP)
- Emission point ID: EN01, EN02, and EN03

One (1) 150 HP Waukesha Reciprocating Engine/Fire Pump located at HEP

- Emission unit ID: 001-04
- Emission point ID: EN04

One (1) 25.11 MMBtu/hr natural gas-fired Cleaver Brooks Boiler located at HEP

- Emission unit ID: 004-01
- Emission point ID: BL01

One (1) 25.2 MMBtu/hr natural gas-fired Superior Boiler located at HEP

- Emission unit ID: BL03
- Emission point ID: BL03

One (1) 70 MMBtu/hr natural gas-fired Optimized Process Furnace (OPF) Hot Oil Heater located at HEP

- Emission unit ID: 004-05
- Emission point ID: HTR3

Three (3) Emergency Generators located at HEP

- Emission unit ID: 002-02 (50 kW), 002-03 (40 kW), and 002-04 (85 kW)
- Emission point ID: AUX02, AUX03, and AUX04

One (1) 1,000,000 gallon Domed Vertical Floating Roof Natural Gasoline storage tank at HEP

- Emission unit ID: 005-02
- Emission point ID: TK10

One (1) Truck and Rail Car Loading Operation located at Galmish and the NGL Unloading Area

- Emission unit ID: 006-01
- Emission point ID: LOAD or VS-1 (when VRU is down)

Plant-wide Fugitive Emissions and Plant-wide Vented Emissions

- Emission unit ID: 007-01
- Emission point ID: FUG and VS-1

One (1) HECS 2,936 gallon Knockout Tank

- Emission unit ID: V-2195
- Emission point ID: V-2195

One (1) Vapor Recovery Unit located at Galmish

- Emission unit ID: C-1
- Emission point ID: C-1

Two (2) Fire Water Heaters (0.2 and 3.0 MMBtu/hr natural gas-fired) located at HEP

- Emission unit ID: T-FW-1 and T-FW-3
- Emission point ID: FW-1 and FW-3

Two (2) Fire Water Heaters (1.65 MMBtu/hr propane fired each) located at Galmish

- Emission unit ID: T-FW-2 and T-FW-4
- Emission point ID: FW-2 and FW-4

One (1) 15,000 gallon horizontal aboveground Distillate storage tank

- Emission unit ID: 131-F
- Emission point ID: TK02

Two (2) 214,921 gallon aboveground NGL storage spheres

- Emission unit ID: T-1 and T-2
- Emission point ID: TK03 and TK04

One (1) 10,000 gallon horizontal aboveground Regen Water/Waste Water storage tank

- Emission unit ID: 133-F
- Emission point ID: TK05

One (1) 5,700 gallon horizontal aboveground hot oil reservoir

- Emission unit ID: 113-F
- Emission point ID: TK06

Five (5) 30,000 gallon horizontal bullet aboveground Drip Gasoline liquids storage tanks

- Emission unit ID: V-1360, V-3020, V-3030, V-3040, and V-3050
- Emission point ID: TK07, TK12, TK13, TK14, and TK15

One (1) 550 gallon horizontal aboveground Methanol storage tank

- Emission unit ID: V-2400
- Emission point ID: TK08

One (1) 230 gallon horizontal aboveground Gasoline storage tank

- Emission unit ID: V-2410
- Emission point ID: TK09

One (1) 4,200 gallon vertical aboveground Used Oil storage tank

- Emission unit ID: T-2550
- Emission point ID: TK11

One (1) 8,000 gallon horizontal aboveground Produced Fluids storage tank

- Emission unit ID: V-3060
- Emission point ID: TK16

Two (2) 451,467 gallon aboveground Propane storage spheres

- Emission unit ID: T-21 and T-22
- Emission point ID: TK17 and TK18

One (1) 260,192 gallon aboveground n-Butane storage sphere

- Emission unit ID: T-23
- Emission point ID: TK19

One (1) 128,345 gallon aboveground Isobutane storage sphere

- Emission unit ID: T-24
- Emission point ID: TK20

One (1) 1,000 gallon horizontal aboveground Odorant storage tank

- Emission unit ID: O-1
- Emission point ID: TK21

One (1) 2,000 gallon horizontal aboveground Odorant storage tank

- Emission unit ID: O-2
- Emission point ID: TK22

Four (4) 750,000 gallon vertical aboveground Water storage tanks

- Emission unit ID: FW-1, FW-2, FW-3, and FW-4
- Emission point ID: TK23, TK31, TK32 and TK33

One (1) 4,200 gallon vertical aboveground Lube Oil storage tank

- Emission unit ID: T-2510
- Emission point ID: TK24

One (1) 4,200 gallon vertical aboveground Ethylene Glycol storage tank

- Emission unit ID: T-2530
- Emission point ID: TK25

One (1) 3,000 gallon horizontal aboveground Gasoline storage tank

- Emission unit ID: L-1
- Emission point ID: TK26

One (1) 17,600 gallon horizontal aboveground Natural Gasoline/LPG storage tank

- Emission unit ID: V-3650
- Emission point ID: TK29

One (1) 150 gallon horizontal aboveground Used Oil storage tank

- Emission unit ID: V-3687
- Emission point ID: TK30

One (1) 259,959 gallon aboveground n-Butane storage sphere

- Emission unit ID: T-25
- Emission point ID: TK34

One (1) 311,410 gallon aboveground NGL storage sphere

- Emission unit ID: T-3
- Emission point ID: TK35

Three (3) 500 gallon horizontal aboveground Diesel Fuel storage tank

- Emission unit ID: M-1, M-2, and M-3
- Emission point ID: TK36, TK37, and TK38

## **SECTION 2**

Title V Operating Permit  
Renewal Application –  
General Forms



**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL  
PROTECTION**

**DIVISION OF AIR QUALITY**

601 57<sup>th</sup> Street SE

Charleston, WV 25304

Phone: (304) 926-0475

[www.dep.wv.gov/daq](http://www.dep.wv.gov/daq)

**INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS**

**Section 1: General Information**

<b>1. Name of Applicant (As registered with the WV Secretary of State's Office):</b> Dominion Transmission, Inc.	<b>2. Facility Name or Location:</b> Hastings Extraction Plant
<b>3. DAQ Plant ID No.:</b>  1 0 3 - 0 0 0 0 9	<b>4. Federal Employer ID No. (FEIN):</b>  5 5 0 6 2 9 2 0 3
<b>5. Permit Application Type:</b>  <input type="checkbox"/> Initial Permit <input checked="" type="checkbox"/> Permit Renewal <input type="checkbox"/> Update to Initial/Renewal Permit Application  When did operations commence? 1945 What is the expiration date of the existing permit? 11/22/2016	
<b>6. Type of Business Entity:</b>  <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Governmental Agency <input type="checkbox"/> LLC <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Partnership	<b>7. Is the Applicant the:</b>  <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Both  If the Applicant is not both the owner and operator, please provide the name and address of the other party. _____ _____ _____
<b>8. Number of onsite employees:</b>  53 employees for Hasting Extraction Plant and Galmish combined. In addition, there are 2 employees that work in the slug catcher area.	
<b>9. Governmental Code:</b>  <input checked="" type="checkbox"/> Privately owned and operated; 0 <input type="checkbox"/> County government owned and operated; 3 <input type="checkbox"/> Federally owned and operated; 1 <input type="checkbox"/> Municipality government owned and operated; 4 <input type="checkbox"/> State government owned and operated; 2 <input type="checkbox"/> District government owned and operated; 5	
<b>10. Business Confidentiality Claims</b>  Does this application include confidential information (per 45CSR31)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.	

<b>11. Mailing Address</b>		
<b>Street or P.O. Box:</b> 925 White Oaks Blvd		
<b>City:</b> Bridgeport	<b>State:</b> WV	<b>Zip:</b> 26330
<b>Telephone Number:</b> (681) 842-3000	<b>Fax Number:</b> (681) 842-3323	

<b>12. Facility Location</b>		
<b>Street:</b> 14510 Shortline Highway	<b>City:</b> Pine Grove	<b>County:</b> Wetzel
<b>UTM Easting:</b> 528.64 km	<b>UTM Northing:</b> 4377.66 km	<b>Zone:</b> <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
<b>Directions:</b> From Clarksburg, take Route 20 North approximately 37 miles to Hastings. Station entrance is on the left side of the road.		
<b>Portable Source?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Is facility located within a nonattainment area?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>If yes, for what air pollutants?</b>
<b>Is facility located within 50 miles of another state?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>If yes, name the affected state(s).</b> Pennsylvania Ohio
<b>Is facility located within 100 km of a Class I Area<sup>1</sup>?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>If no, do emissions impact a Class I Area<sup>1</sup>?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<b>If yes, name the area(s).</b>
<sup>1</sup> Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		



<b>13. Contact Information</b>		
<b>Responsible Official:</b> Brian C. Sheppard		<b>Title:</b> Vice President, Pipeline Operations
<b>Street or P.O. Box:</b> 925 White Oaks Blvd.		
<b>City:</b> Bridgeport	<b>State:</b> WV	<b>Zip:</b> 26330
<b>Telephone Number:</b> (681) 842-3733	<b>Fax Number:</b> (681) 842-3323	
<b>E-mail address:</b> Brian.C.Sheppard@dom.com		
<b>Environmental Contact:</b> Joseph Pietro		<b>Title:</b> Environmental Specialist
<b>Street or P.O. Box:</b> 5000 Dominion Blvd.		
<b>City:</b> Glen Allen	<b>State:</b> VA	<b>Zip:</b> 23060
<b>Telephone Number:</b> (804) 273-4175	<b>Fax Number:</b> (804) 273-2964	
<b>E-mail address:</b> Joseph.J.Pietro@dom.com		
<b>Application Preparer:</b> Joseph Pietro		<b>Title:</b> Environmental Specialist
<b>Company:</b> Dominion Resources, Inc.		
<b>Street or P.O. Box:</b> 5000 Dominion Blvd.		
<b>City:</b> Glen Allen	<b>State:</b> VA	<b>Zip:</b> 23060
<b>Telephone Number:</b> (804) 273-4175	<b>Fax Number:</b> (804) 273-2964	
<b>E-mail address:</b> Joseph.J.Pietro@dom.com		

**14. Facility Description**

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

Process	Products	NAICS	SIC
Natural Gas Extraction Plant	Isobutane, n-butane, Propane, Natural Gasoline	211112	1321

**Provide a general description of operations.**

Hastings Extraction Plant is a natural gas liquids extraction facility. Propane and heavier components of natural gas are removed through a turbo-expander cryogenic process. The heavier hydrocarbons are fractionated into the products propane, isobutane, n-butane, and natural gasoline. The Galmish Loading Facility and other areas are also included in this application.

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

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

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

## Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS (Subpart Dc, Kb, IIII, KKK)	<input type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input checked="" type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO <sub>x</sub> Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO <sub>x</sub> Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO <sub>2</sub> Trading Program (45CSR41)	
19. Non Applicability Determinations	
<p><b>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</b></p> <p>40 CFR 60 Subpart JJJJ – The engines are not subject to this subpart since they were manufactured before the applicability date (EN04) or they are compression ignition engines (EN01 – EN03).</p> <p>40 CFR 60 Subpart OOOO –The facility is in the natural gas production, transmission, and distribution segment. The only potentially affected facilities under this rule were constructed, modified, or reconstructed prior to August 23, 2011. None of the newly installed tanks onsite meet the applicability requirements in 40 CFR 60.5365(e). Therefore, this subpart does not apply to the facility.</p> <p>40 CFR 63 Subpart HHH – This subpart does not apply to the facility since the facility is not a major source of HAPs.</p> <p>40 CFR 63 Subpart DDDDD – The boilers (BL01 &amp; BL03) are not subject to this subpart since the facility is not a major source of HAPs.</p> <p>40 CFR 63 Subpart JJJJJ – The boilers (BL01 &amp; BL03) are not applicable to this subpart since they are “gas-fired boilers”, which are excluded per §63.11195.</p> <p>40 CFR 64 – The only control equipment at the facility is the Vapor Recovery Unit (C-1) and internal floating roof on the natural gasoline tank (TK10). The Vapor Recovery Unit is considered “inherent process equipment” as defined at 40 CFR 64.1. Therefore, the emission unit does not have a control device for purposes of CAM applicability. The internal floating roof tank is subject to 40 CFR 60 Subpart Kb, which includes monitoring provisions.</p>	
<input checked="" type="checkbox"/> Permit Shield	

## 20. Facility-Wide Applicable Requirements

**List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).**

45 CSR 6-3.1 – Open burning of refuse prohibited (TV 3.1.1)  
45 CSR 6-3.2 – Open burning exemption (TV 3.1.2)  
40 CFR Part 61 and 45 CSR 34 – Asbestos inspection and removal (TV 3.1.3)  
45 CSR 11-5.2 – Standby plans for emergency episodes (TV 3.1.5)  
40 CFR Part 82 Subpart F – Ozone depleting substances (TV 3.1.7)  
40 CFR Part 68 – Risk Management Plan (TV 3.1.8)

State Only:

45 CSR 4-3.1 – Objectionable odors (TV 3.1.4)  
WV Code 22-5-4 (a) (14) – Annual emission inventory reporting (TV 3.1.6)

☒ Permit Shield

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

45 CSR 6-3.1 – The permittee shall prohibit open burning of refuse (TV 3.1.1)  
45 CSR 6-3.2 – The permittee shall notify if open burning occurs (TV 3.1.2)  
40 CFR Part 61 and 45 CSR 34 – Prior to demolition/construction buildings will be inspected for asbestos (TV 3.1.3)  
45 CSR 4 – Permittee shall maintain records of all odor complaints received (TV 3.4.3)  
45 CSR 11 – Upon request by the Secretary, the permittee shall prepare a standby plan (TV 3.1.5)  
WV 22-5-4 – The permittee shall submit annual emission inventory reports (TV 3.1.6)  
40 CFR Part 82 Subpart F – The permittee will prohibit maintenance, service, or repair of appliances containing ozone depleting substances (TV 3.1.7)  
40 CFR Part 68 – The facility has a current Risk Management Plan which was previously submitted (TV 3.1.8)  
45 CSR 13 and WV Code 22-5-4(a)(14 - 15) – Testing requirements (TV 3.3.1)  
45 CSR 30 – Recordkeeping Requirements (TV 3.4)  
45 CSR 30 – Reporting Requirements (TV 3.5)  
45 CSR 30 - The permittee shall submit a certified emissions statement and pay fees annually (TV 3.5.4)  
45 CSR 30 – The permittee shall certify compliance with the conditions of this permit annually (TV 3.5.5)  
45 CSR 30 - The permittee shall submit semi-annual monitoring reports (TV 3.5.6)  
45 CSR 30 – The permittee shall promptly submit supplemental reports and notices of deviations (TV 3.5.8)

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

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

<b>21. Active Permits/Consent Orders</b>		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit <i>(if any)</i>
R13-2468D	11/05/2014	An application for a R13 permit was submitted in August 2015.
CO-R13-E-2015-13	06/26/2015	NA

<b>22. Inactive Permits/Obsolete Permit Conditions</b>		
Permit Number	Date of Issuance	Permit Condition Number
R30-10300009-2011	12/06/2011	7.5.1

**Section 3: Facility-Wide Emissions**

<b>23. Facility-Wide Emissions Summary [Tons per Year]</b>	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	50.85
Nitrogen Oxides (NO <sub>x</sub> )	83.03
Lead (Pb)	2.7E-04
Particulate Matter (PM <sub>2.5</sub> ) <sup>1</sup>	5.49
Particulate Matter (PM <sub>10</sub> ) <sup>1</sup>	5.49
Total Particulate Matter (TSP)	5.49
Sulfur Dioxide (SO <sub>2</sub> )	7.22
Volatile Organic Compounds (VOC)	560.63
Hazardous Air Pollutants <sup>2</sup>	Potential Emissions
Acetaldehyde	0.03
Acrolein	0.01
Benzene	0.21
Ethylbenzene	1.0E-04
Formaldehyde	0.15
Hexane	1.08
Toluene	0.31
Xylene	0.12
Regulated Pollutants other than Criteria and HAP	Potential Emissions
CO <sub>2</sub>	69,625
CH <sub>4</sub>	144.06
N <sub>2</sub> O	0.29
CO <sub>2,e</sub>	73,314
<sup>1</sup> PM <sub>2.5</sub> and PM <sub>10</sub> are components of TSP. <sup>2</sup> For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.	

**Section 4: Insignificant Activities**

<b>24. Insignificant Activities (Check all that apply)</b>	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input checked="" type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO <sub>2</sub> lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input checked="" type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.
<input checked="" type="checkbox"/>	<p>19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units.</p> <p>Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:</p> <p><u>Various exempt sources</u></p>

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



24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input checked="" type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input checked="" type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input checked="" type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input checked="" type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

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

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

## Section 6: Certification of Information

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

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

#### a. Certification of Truth, Accuracy and Completeness

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

#### b. Compliance Certification

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

#### Responsible official (type or print)

Name: Brian C. Sheppard

Title: Vice President, Pipeline Operations

#### Responsible official's signature:

Signature:   
(Must be signed and dated in blue ink)

Signature Date: 05-17-16

#### Note: Please check all applicable attachments included with this permit application:

☒ ATTACHMENT A: Area Map

☒ ATTACHMENT B: Plot Plan(s)

☒ ATTACHMENT C: Process Flow Diagram(s)

☒ ATTACHMENT D: Equipment Table

☒ ATTACHMENT E: Emission Unit Form(s)

☐ ATTACHMENT F: Schedule of Compliance Form(s)

☒ ATTACHMENT G: Air Pollution Control Device Form(s)

☐ ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

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

## **Attachment A**

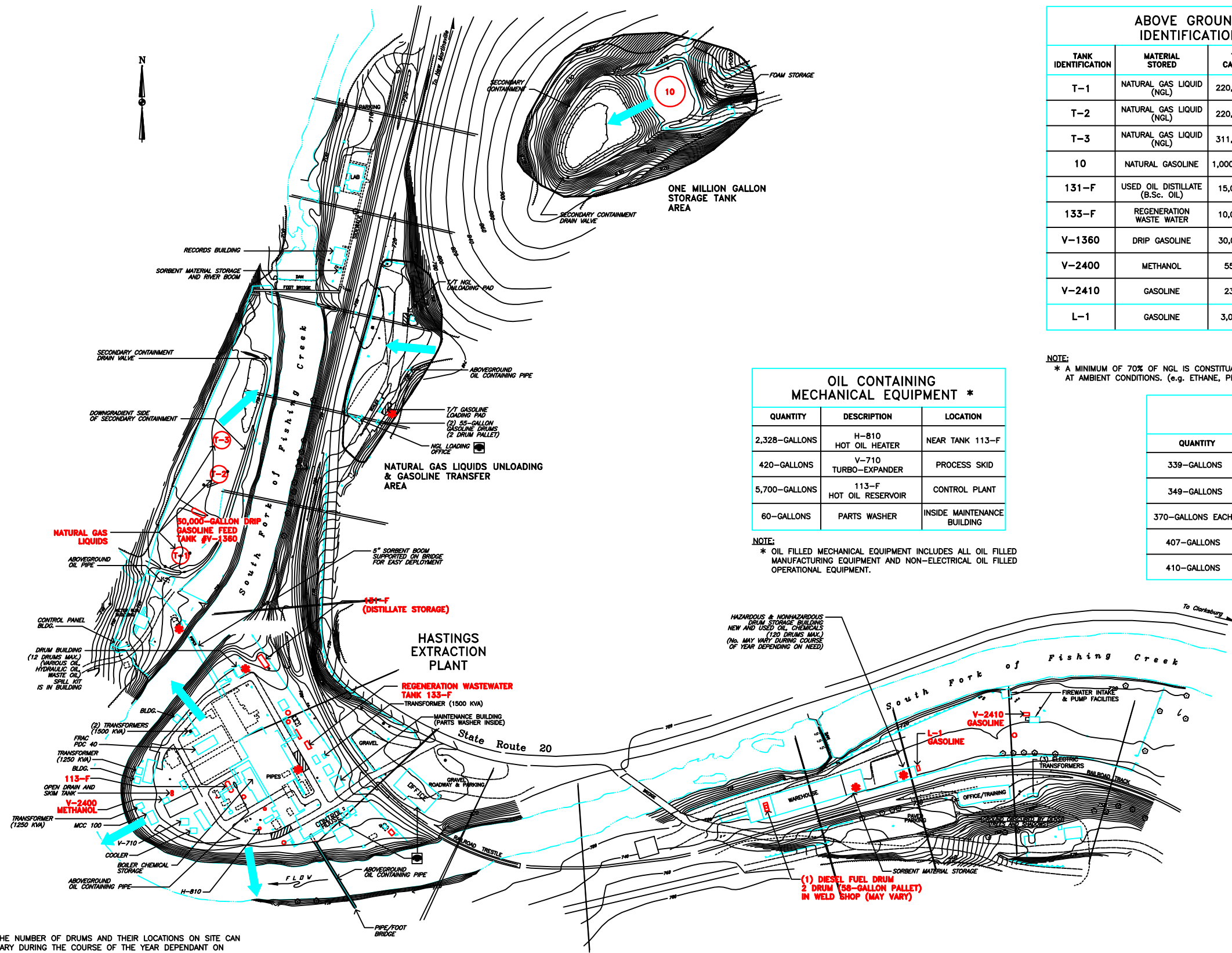
Area Map



## **Attachment B**

Plot Plan





ABOVE GROUND STORAGE TANKS IDENTIFICATION & INFORMATION				
TANK IDENTIFICATION	MATERIAL STORED	TANK CAPACITY	TYPE OF SECONDARY CONTAINMENT	SECONDARY CONTAINMENT CAPACITIES
T-1	NATURAL GAS LIQUID (NGL)	220,000 GAL.*	SURFACE IMPOUNDMENT EARTHEN MATERIAL	>300,000 GAL.
T-2	NATURAL GAS LIQUID (NGL)	220,000 GAL.*	SURFACE IMPOUNDMENT EARTHEN MATERIAL	>300,000 GAL.
T-3	NATURAL GAS LIQUID (NGL)	311,000 GAL.	SURFACE IMPOUNDMENT EARTHEN MATERIAL	>300,000 GAL.
10	NATURAL GASOLINE	1,000,000 GAL.	SURFACE IMPOUNDMENT EARTHEN MATERIAL	1,173,590 GAL.
131-F	USED OIL DISTILLATE (B.Sc. OIL)	15,000 GAL.	SELF-CONTAINED	16,326 GAL.
133-F	REGENERATION WASTE WATER	10,000 GAL.	SELF-CONTAINED	11,147 GAL.
V-1360	DRIP GASOLINE	30,000 GAL.	SURFACE IMPOUNDMENT EARTHEN MATERIAL	>300,000-GAL.
V-2400	METHANOL	550 GAL.	DOUBLE WALL	550-GAL.
V-2410	GASOLINE	230 GAL.	DOUBLE WALL	230-GAL.
L-1	GASOLINE	3,000 GAL.	DOUBLE WALL	3,000-GAL.

NOTE:  
\* A MINIMUM OF 70% OF NGL IS CONSTITUENTS THAT ARE NOT LIQUID AT AMBIENT CONDITIONS. (e.g. ETHANE, PROPANE AND BUTANE)

OIL CONTAINING MECHANICAL EQUIPMENT *		
QUANTITY	DESCRIPTION	LOCATION
2,328-GALLONS	H-810 HOT OIL HEATER	NEAR TANK 113-F
420-GALLONS	V-710 TURBO-EXPANDER	PROCESS SKID
5,700-GALLONS	113-F HOT OIL RESERVOIR	CONTROL PLANT
60-GALLONS	PARTS WASHER	INSIDE MAINTENANCE BUILDING

NOTE:  
\* OIL FILLED MECHANICAL EQUIPMENT INCLUDES ALL OIL FILLED MANUFACTURING EQUIPMENT AND NON-ELECTRICAL OIL FILLED OPERATIONAL EQUIPMENT.

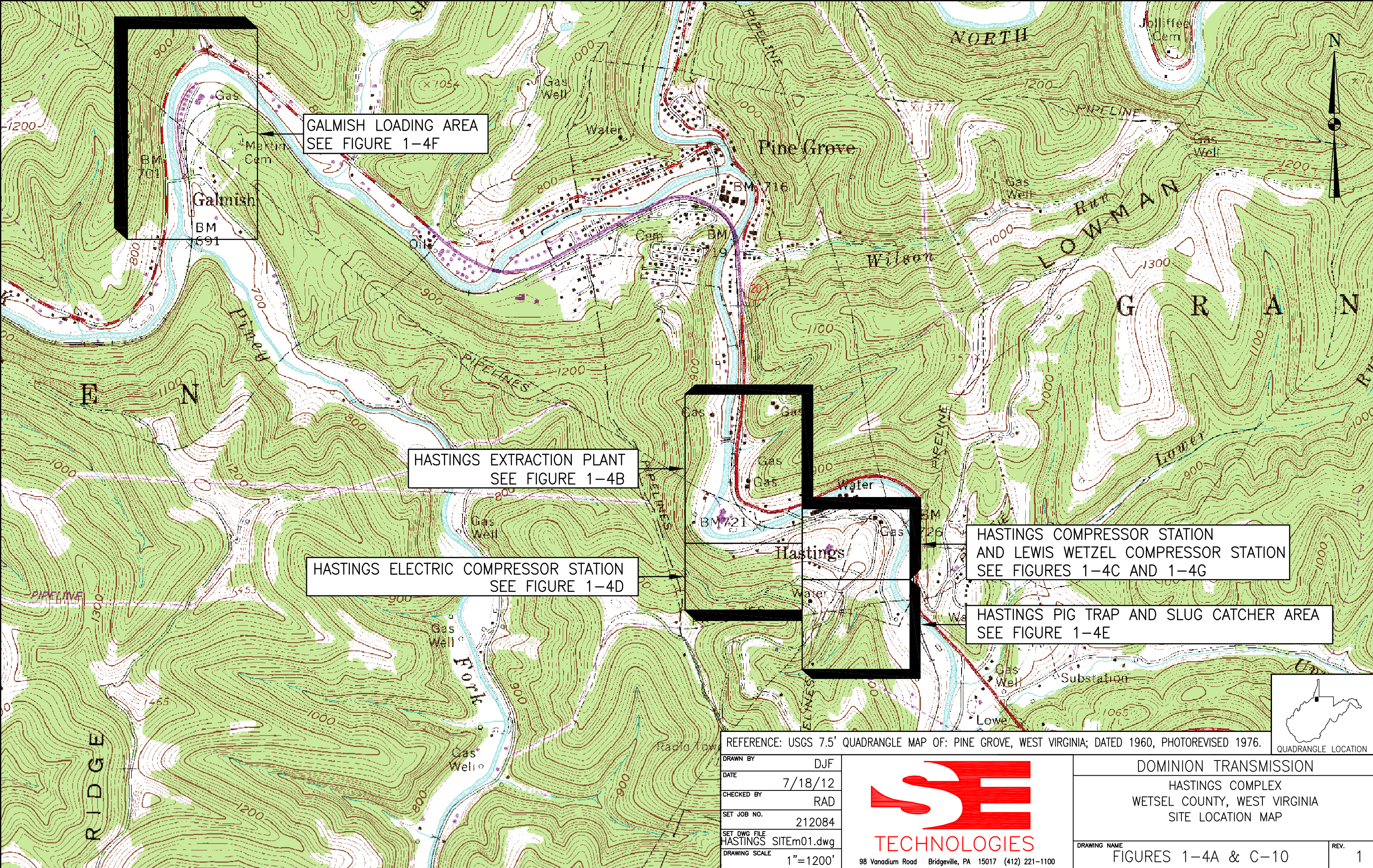
OIL CONTAINING ELECTRICAL EQUIPMENT		
QUANTITY	DESCRIPTION	LOCATION
339-GALLONS	TRANSFORMER, 1500 KVA WESTINGHOUSE	EAST ON THE PROPERTY
349-GALLONS	TRANSFORMER, 1500 KVA WESTINGHOUSE	NORTH SIDE OF PROPERTY
370-GALLONS EACH	TRANSFORMERS, 1250 KVA (2)	WEST SIDE OF PROPERTY
407-GALLONS	TRANSFORMER, 1500 KVA	NORTH SIDE OF PROPERTY
410-GALLONS	TRANSFORMER, 1500 KVA, TAG XFOYO	NORTHWEST SIDE OF PROPERTY NEXT TO MCC#1 BLDG.

- LEGEND
- TRANSFORMER LOCATION
  - SPILL KIT LOCATION
  - FENCE LINE
  - TRUCK LOADING AREA
  - SURFACE FLOW DIRECTION
  - PHONE

REFERENCE  
AERIAL MAPPING BY KEBRAL AERIAL MAPPING, WITH GROUND CONTROL BY HSES CONSULTANTS, INC. DECEMBER 1999.  
ITEMS SHOWN DASHED "\_\_\_\_\_" INCLUDING ROADS, RAILROAD, STREAM, & CONTOURS (20' INTERVAL), ARE AS PER U.S.G.S. 7.5' TOPOGRAPHIC QUADRANGLE (1960, PHOTOREVISED 1976).

NOTE: REFERENCE FIGURE 1-4B

SYM.	DATE	BY	REVISION DESCRIPTION	PRJ/TSK	APP.	SCALE	N.T.S.	DATE	Dominion Transmission, Inc.			
						DRAWN	SE TECH (DJF)	11/27/2012	445 West Main St. Clarksburg, West Virginia 26301 / Phone: (304) 623-8000			
						CHECKED	SE TECH (JSS)		FOR: HASTINGS COMPLEX			
						APP. FOR BID			TITLE: ENVIRONMENTAL EMERGENCY SITE PLAN (FACILITY DIAGRAM)			
						APP. FOR CONST.			DIR:		GROUP	DWG. NO.
						TOWN:	COUNTY: WETZEL, WV		FILE:		PRJ/TSK:	PD
1	04/29/2014	JRB	INCORPORATED DOMINION BORDER AND MARK-UPS PER TIM JACKSON									X7274B
												1



GALMISH LOADING AREA  
SEE FIGURE 1-4F

HASTINGS EXTRACTION PLANT  
SEE FIGURE 1-4B

HASTINGS ELECTRIC COMPRESSOR STATION  
SEE FIGURE 1-4D

HASTINGS COMPRESSOR STATION  
AND LEWIS WETZEL COMPRESSOR STATION  
SEE FIGURES 1-4C AND 1-4G

HASTINGS PIG TRAP AND SLUG CATCHER AREA  
SEE FIGURE 1-4E

REFERENCE: USGS 7.5' QUADRANGLE MAP OF: PINE GROVE, WEST VIRGINIA; DATED 1960, PHOTOREVISED 1976.

DRAWN BY	DJF
DATE	7/18/12
CHECKED BY	RAD
SET JOB NO.	212084
SET DWG FILE	HASTINGS SITEm01.dwg
DRAWING SCALE	1"=1200'



98 Vanadium Road Bridgeville, PA 15017 (412) 221-1100

DOMINION TRANSMISSION  
HASTINGS COMPLEX  
WETSEL COUNTY, WEST VIRGINIA  
SITE LOCATION MAP

DRAWING NAME  
FIGURES 1-4A & C-10

REV.  
1



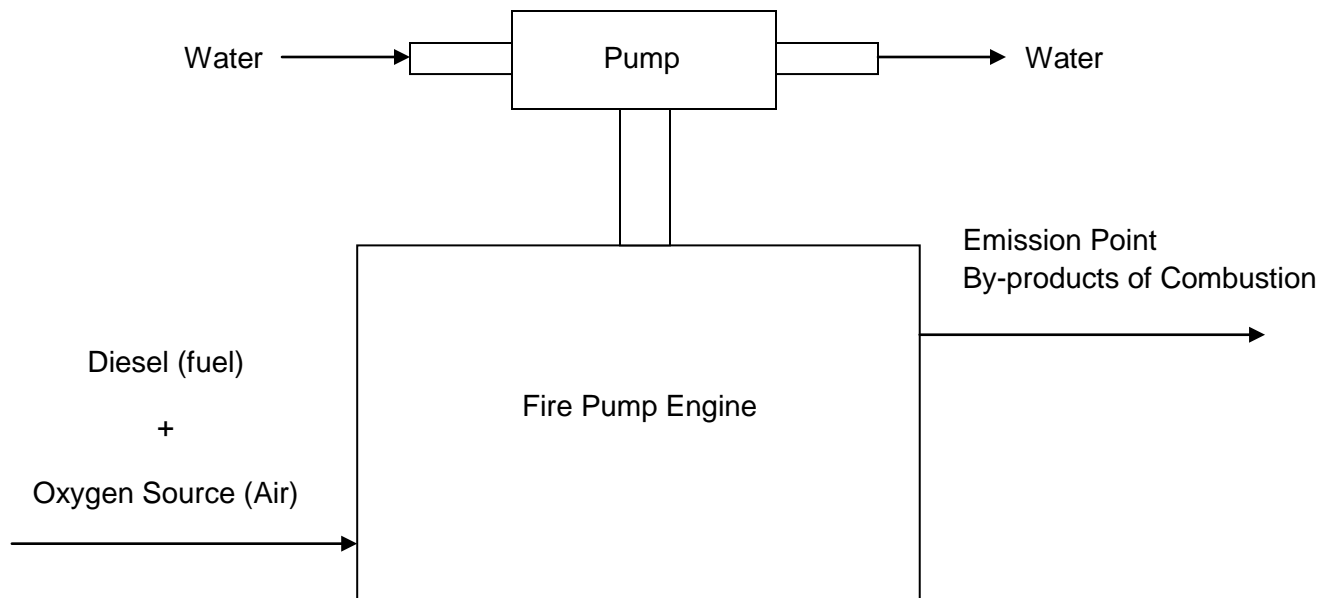
## **Attachment C**

### Process Flow Diagrams

**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

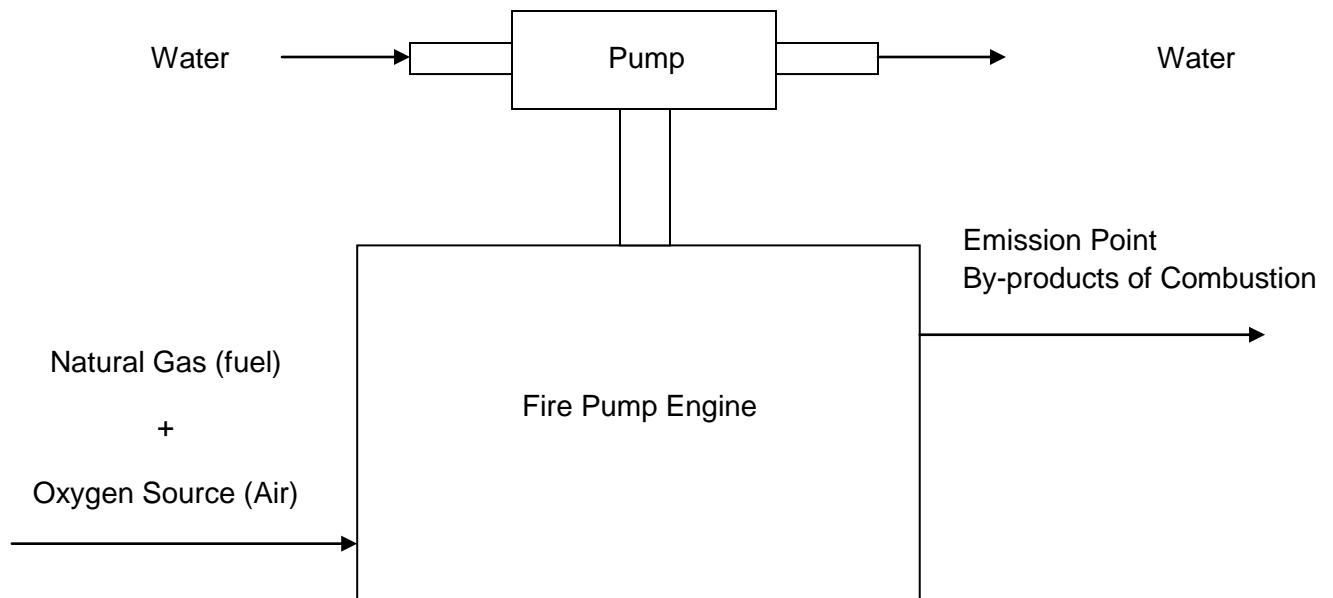
**Diesel-fired Fire Pumps (EN01 – EN03) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

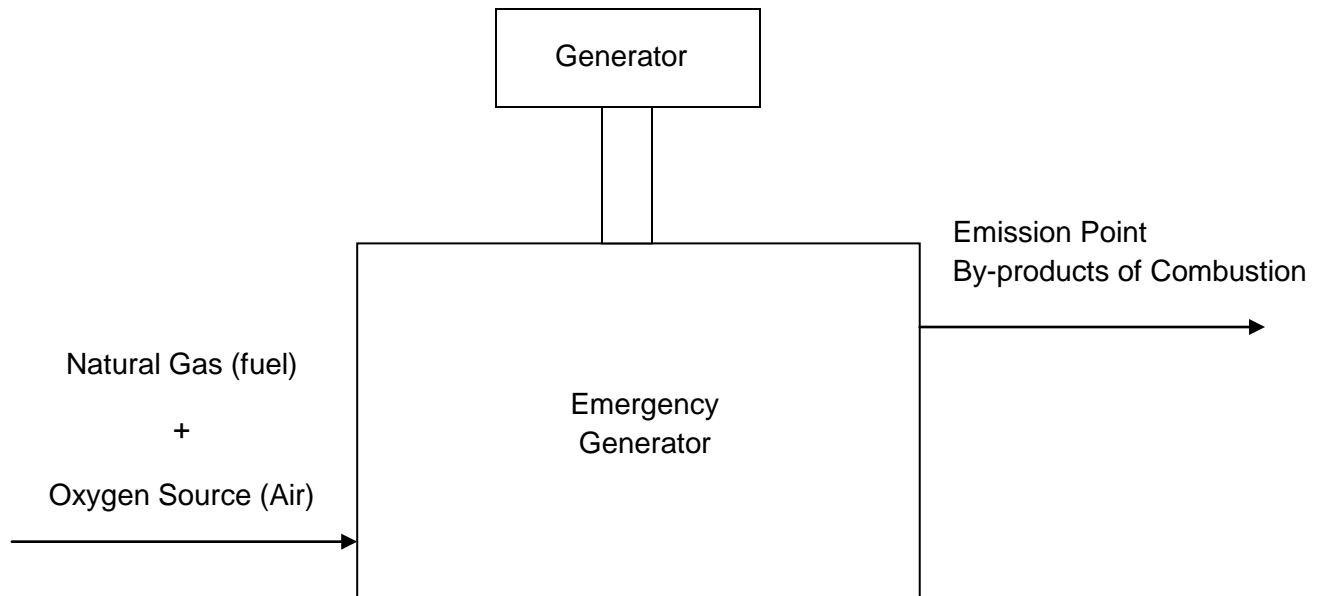
**Natural Gas-fired Fire Pump (EN04) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

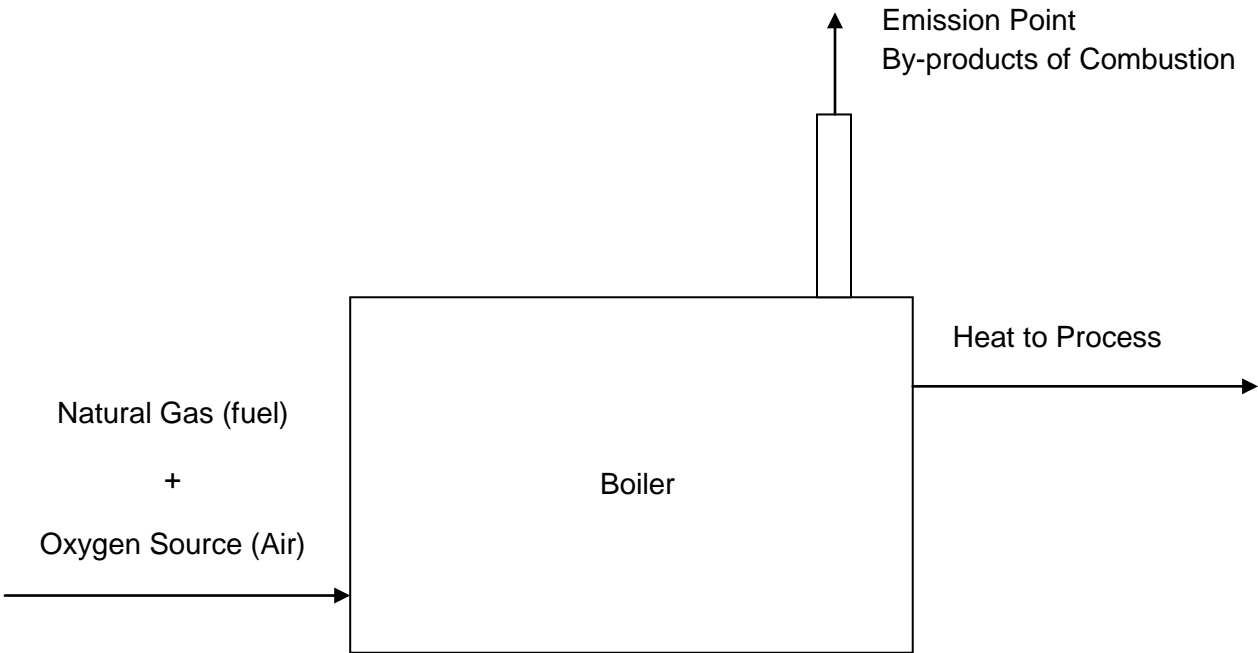
**Emergency Generators (AUX02 – AUX04) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

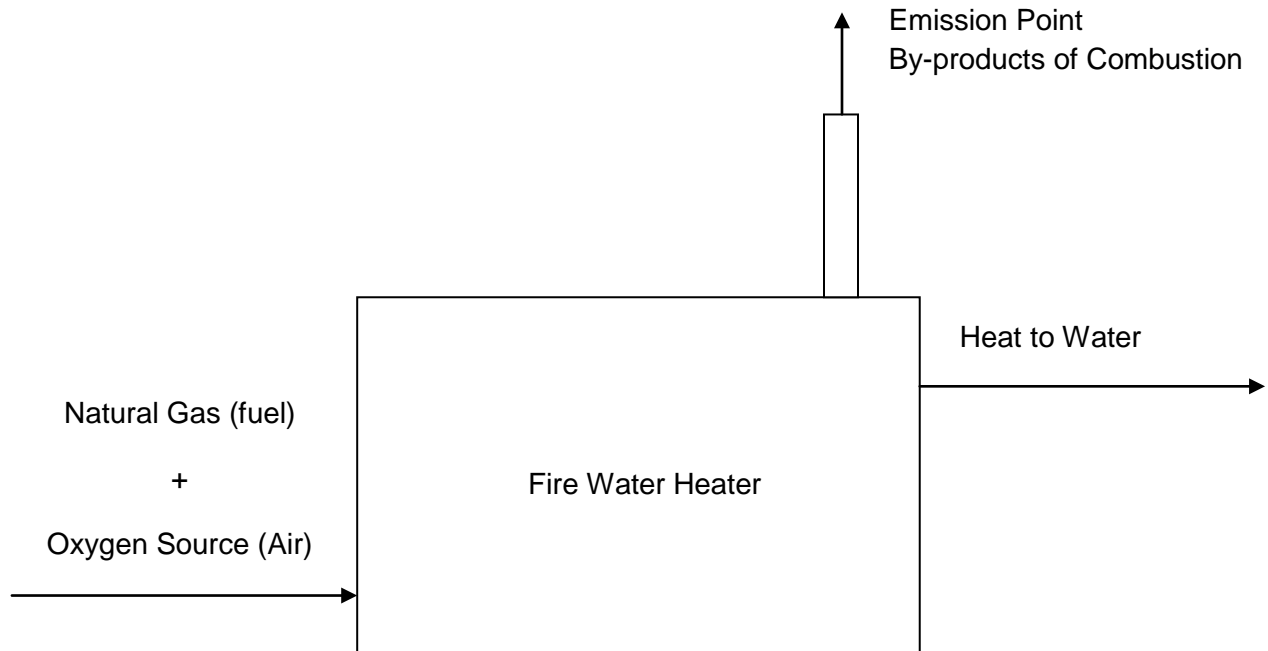
**Boilers (BL01 and BL03) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

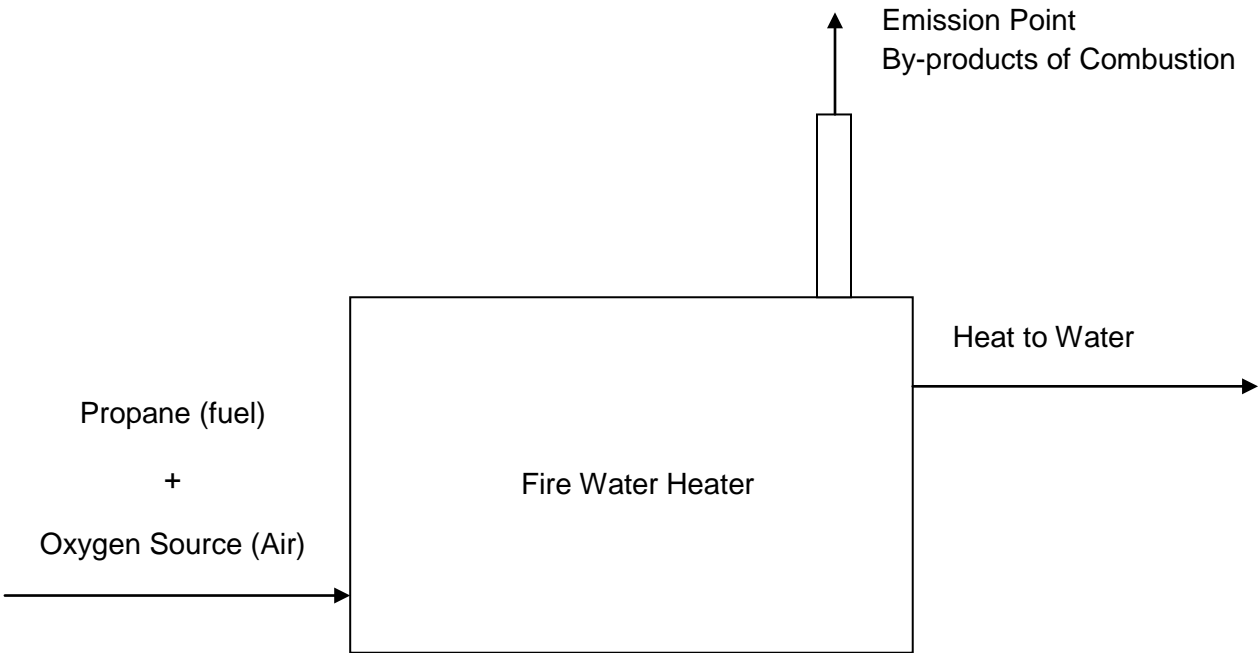
**Fire Water Heater (FW-1 and FW-3) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

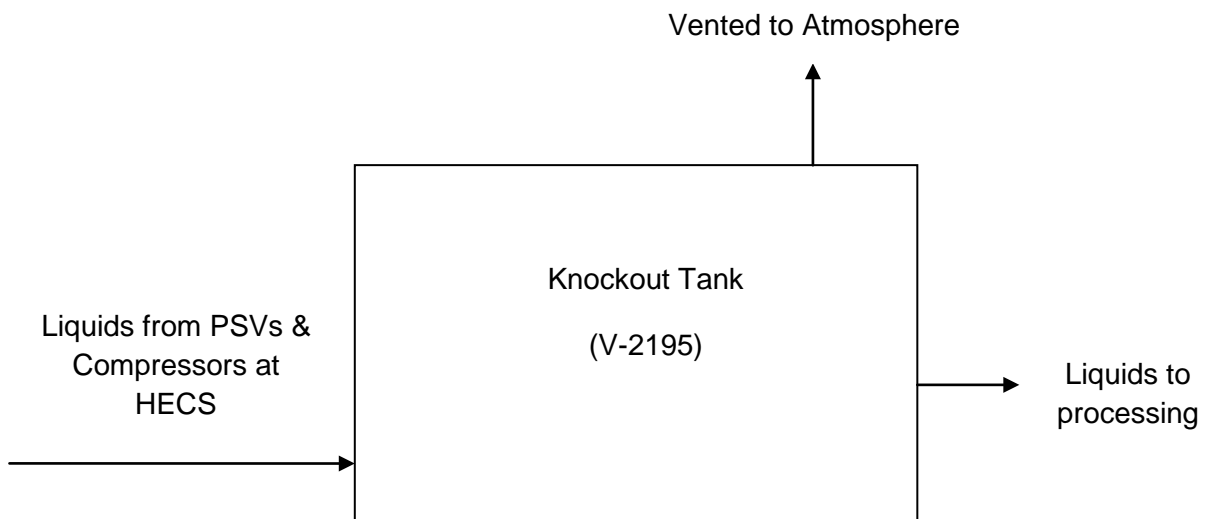
**Fire Water Heater (FW-2 and FW-4) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

**Knockout Tank (V-2195) Process Flow Diagram**

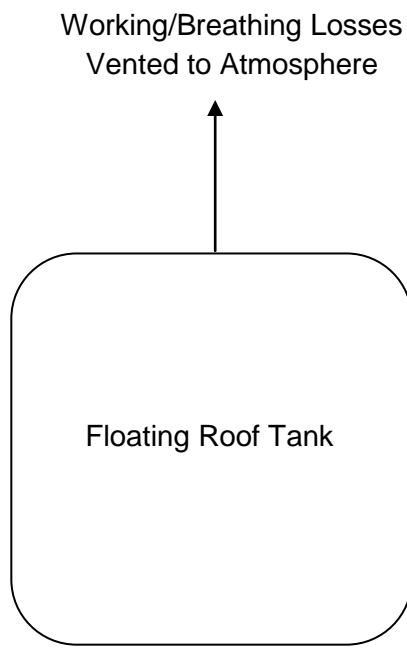




**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

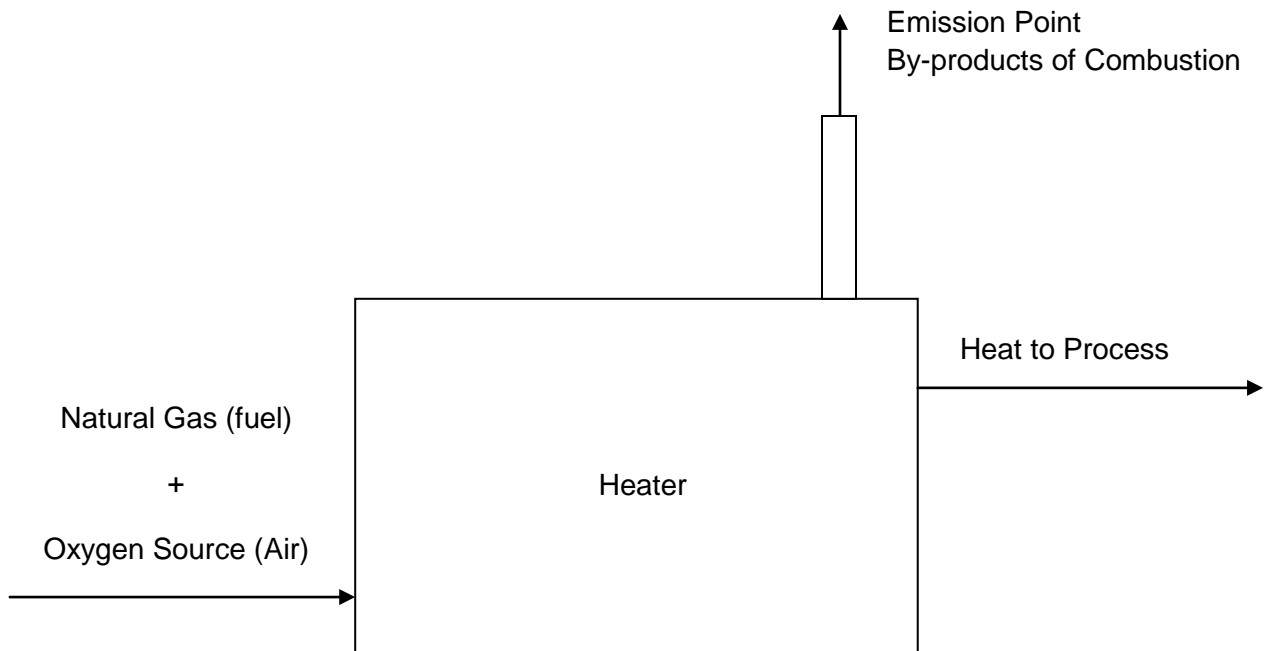
**Vertical Floating Roof Natural Gasoline Tank (TK10) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

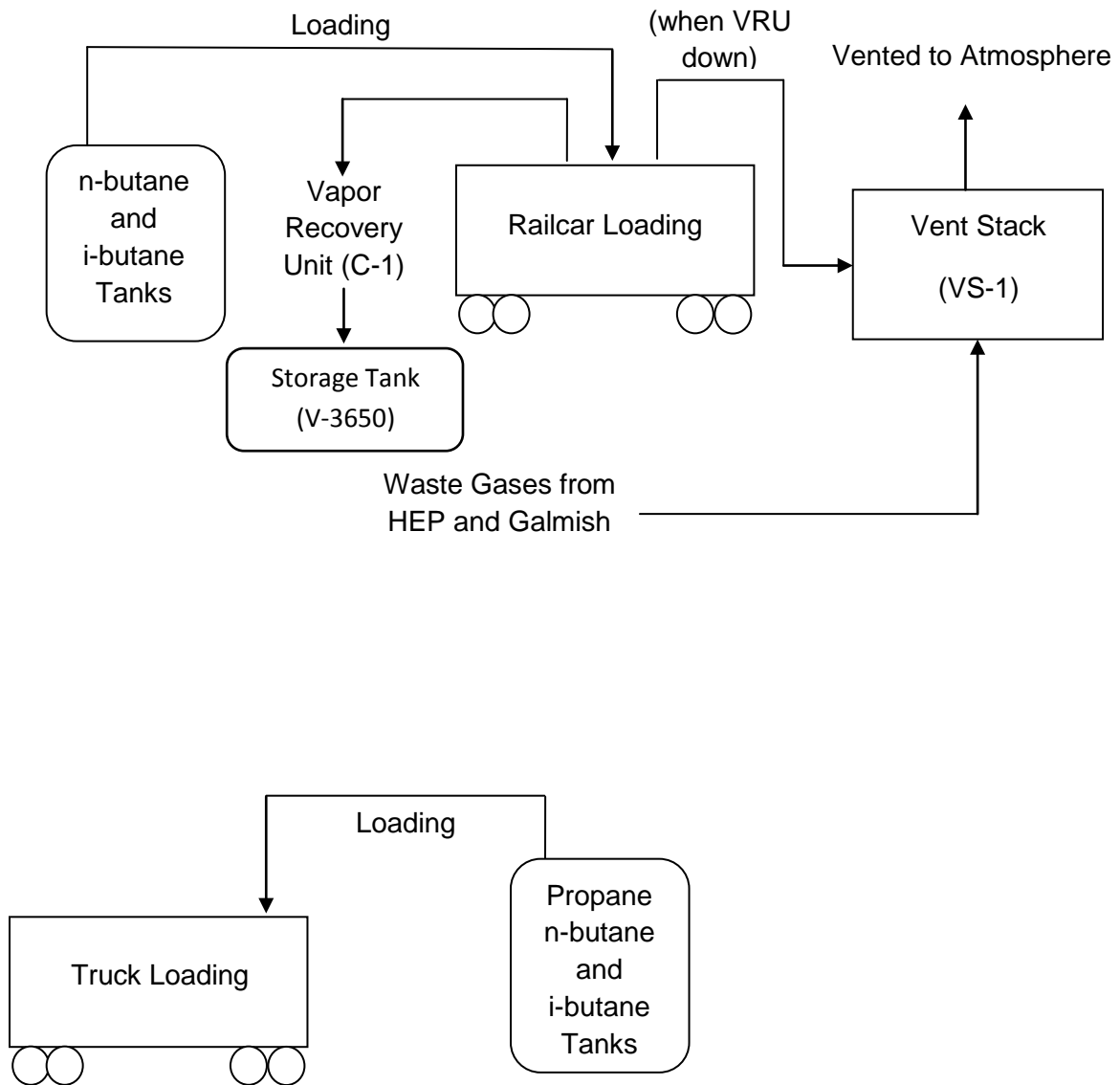
**Heater (HTR3) Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

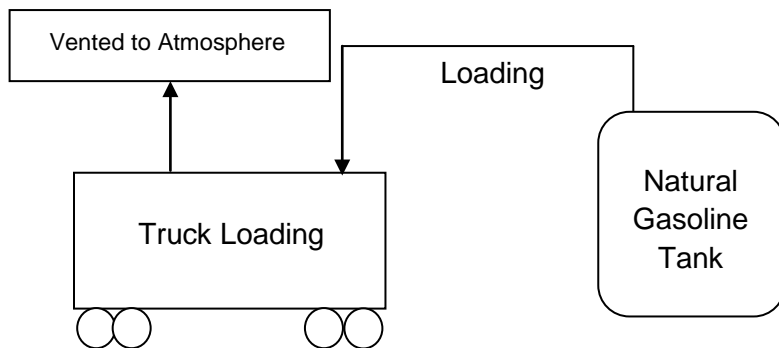
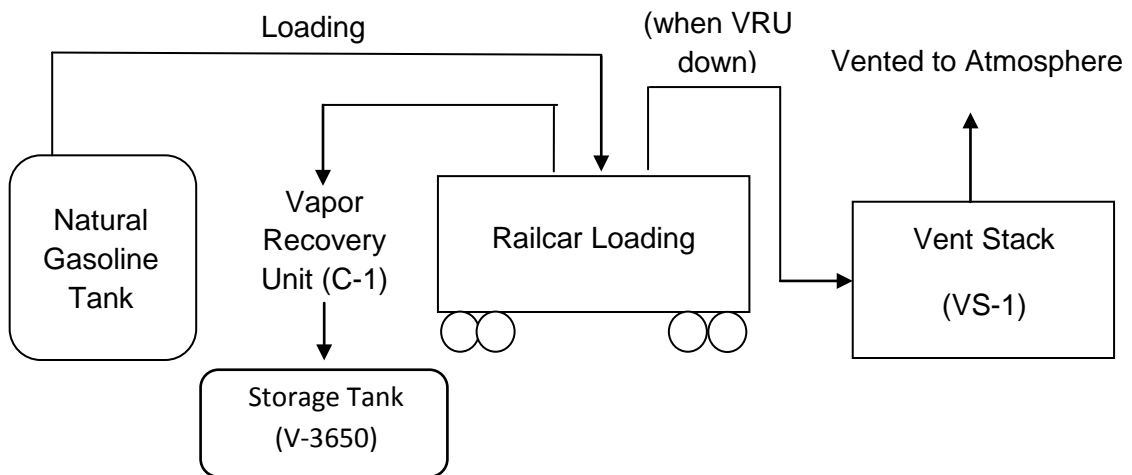
**Truck and Railcar Loading (LOAD), Vapor Recovery Unit (C-1), and Vent Stack Process Flow Diagram**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

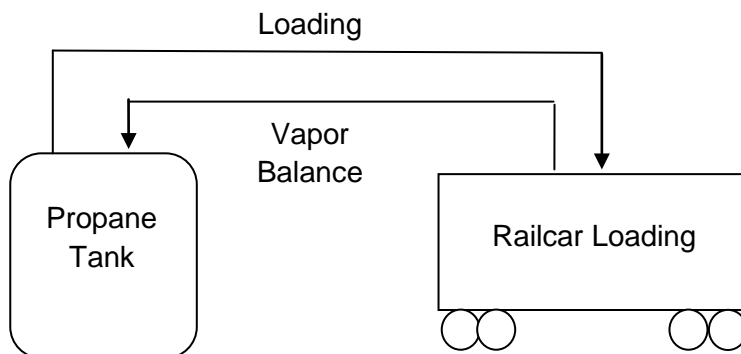
**Truck and Railcar Loading (LOAD), Vapor Recovery Unit (C-1), and Vent Stack Process Flow Diagram (continued)**



**Dominion Transmission, Inc.**

**Hastings Extraction Plant**

**Truck and Railcar Loading (LOAD), Vapor Recovery Unit (C-1), and Vent Stack Process  
Flow Diagram (continued)**



## **Attachment D**

Title V Equipment Table

**ATTACHMENT D - Title V Equipment Table**  
**(includes all emission units at the facility except those designated as**  
**insignificant activities in Section 4, Item 24 of the General Forms)**

Emission Point ID <sup>1</sup>	Control Device <sup>1</sup>	Emission Unit ID <sup>1</sup>	Emission Unit Description	Design Capacity	Year Installed/Modified
EN01	N/A	001-01	Galmish Diesel Fired Firewater Pump, John Deere Model 6081HF001	300 hp	2008
EN02	N/A	001-02	Galmish Diesel Fired Firewater Pump, John Deere Model 6081HF001	300 hp	2008
EN03	N/A	001-03	Galmish Diesel Fired Firewater Pump, John Deere Model 6068HFC48B	211 hp	2010
EN04	N/A	001-04	HEP** Reciprocating Engine/Fire Pump; Waukesha F1197GUF	150 hp	1971
BL01	N/A	004-01	HEP** Boiler; Cleaver Brooks 101-CB	25.11 MMBtu/hr	1971
BL03	N/A	BL03	HEP** Boiler, Superior X6-X-3000	25.2 MMBtu/hr	2015
HTR3	N/A	004-05	HEP** Hot Oil Heater; OPF	70 MMBtu/hr	2003
AUX02	N/A	002-02	HEP** Backup Emergency Generator; Kohler Auxiliary Generator	50 KW (67 hp)	2002
AUX03	N/A	002-03	HEP** Emergency Generator; Dayton	40 KW (57 hp)	2004
AUX04	N/A	002-04	HEP** Emergency Generator; Cummins, Onan	85 KW (120 hp)	2005
TK10 <sup>2</sup>	IFR*	005-02	HEP** Vertical Floating Roof Natural Gasoline Storage Tank	1,000,000 Gallon	2016
LOAD (uncaptured emissions) VS-1 (when VRU is down)	C-1 (railcar loading only)	006-01	Truck and Rail Car Loading Operations at Galmish and the NGL unloading area. Loading of i-butane, n-butane, natural gasoline, and propane at Galmish. Loading of natural gasoline at NGL unloading area.	550 GPM of each Gasoline, Propane, Isobutane, n-Butane	1951/2010-2012
FUG	N/A	007-01	Plant wide Fugitive Emissions (includes HECS***, slug catcher, Galmish loading and NGL unloading)	N/A	2002
VS-1	N/A	007-01	Plant wide Vented Emissions (includes analyzer bleeds, drains)	N/A	1951/2015
V-2195	N/A	V-2195	HECS Knockout tank	2,936 gallon	2002
C-1	N/A	C-1	Vapor Recovery Unit (VRU)	N/A	2012
FW-1	N/A	T-FW-1	HEP** Fire Water Heater, Brown Fired Heater Model 302-6, Natural Gas Fired	0.20 MMBtu/hr	2002
FW-2	N/A	T-FW-2	Galmish Fire Water Heater 1, RBI Model LB1650, Propane Fired	1.65 MMBtu/hr	2006

FW-3	N/A	T-FW-3	HEP** Fire Water Heater (near Tank 10) RBI Model MB3000, Natural Gas Fired	3 MMBtu/hr	2010
FW-4	N/A	T-FW-4	Galmish Fire Water Heater 2, RBI Model LB1650, Propane Fired	1.65 MMBtu/hr	2012
TK02	N/A	131-F	Horizontal Aboveground Tank Containing Distillate	15,000 gallon	1992
TK03	N/A	T-1	Aboveground Sphere Containing NGL	214,921 gallon	
TK04	N/A	T-2	Aboveground Sphere Containing NGL	214,921 gallon	
TK05	N/A	133-F	Horizontal Aboveground Tank Containing Regen Water/Waste Water	10,000 gallon	2014
TK06	N/A	113-F	Horizontal Aboveground Tank – Hot Oil	5,700 gallon	
TK07	N/A	V-1360	Horizontal Bullet Aboveground Tank Containing Drip Gasoline Liquids	30,000 gallon	2002
TK08	N/A	V-2400	Horizontal Aboveground Tank Containing Methanol	550 gallon	2004
TK09	N/A	V-2410	Horizontal Aboveground Tank Containing Gasoline	230 gallon	2000
TK11	N/A	T-2550	Vertical Aboveground Tank Containing Used Oil	4,200 gallon	2002
TK12	N/A	V-3020	Horizontal Bullet Aboveground Tank Containing Drip Gasoline Liquids	30,000 gallon	2002
TK13	N/A	V-3030	Horizontal Bullet Aboveground Tank Containing Drip Gasoline Liquids	30,000 gallon	2002
TK14	N/A	V-3040	Horizontal Bullet Aboveground Tank Containing Drip Gasoline Liquids	30,000 gallon	2002
TK15	N/A	V-3050	Horizontal Bullet Aboveground Tank Containing Drip Gasoline Liquids	30,000 gallon	
TK16	N/A	V-3060	Horizontal Aboveground Tank Containing Produced Fluids	8,000 gallon	1997
TK17	N/A	T-21	Aboveground Sphere Containing Propane	451,467 gallon	
TK18	N/A	T-22	Aboveground Sphere Containing Propane	451,467 gallon	



TK19	N/A	T-23	Aboveground Sphere Containing N-Butane	260,192 gallon	
TK20	N/A	T-24	Aboveground Sphere Containing Isobutane	128,345 gallon	
TK21	N/A	O-1	Horizontal Aboveground Tank Containing Odorant	1,000 gallon	
TK22	N/A	O-2	Horizontal Aboveground Tank Containing Odorant	2,000 gallon	
TK23	N/A	FW-1	Vertical Aboveground Tank Containing Water	750,000 gallon	
TK24	N/A	T-2510	Vertical Aboveground Tank Containing Lube Oil	4,200 gallon	2002
TK25	N/A	T-2530	Vertical Aboveground Tank Containing Ethylene Glycol	4,200 gallon	2002
TK26	N/A	L-1	Horizontal Aboveground Tank Containing Gasoline	3,000 gallon	2010
TK29	N/A	V-3650	Horizontal Aboveground Tank Containing Natural Gasoline/LPG	17,600 gallon	2012
TK30	N/A	V-3687	Horizontal Aboveground Tank Containing Used Oil	150 gallon	2012
TK31	N/A	FW-2	Vertical Aboveground Tank Containing Water	750,000 gallon	
TK32	N/A	FW-3	Vertical Aboveground Tank Containing Water	750,000 gallon	
TK33	N/A	FW-4	Vertical Aboveground Tank Containing Water	750,000 gallon	
TK34	N/A	T-25	Aboveground n-Butane storage sphere	259,959 gallon	
TK35	N/A	T-3	Aboveground NGL storage sphere	311,410 gallon	
TK36	N/A	M-1	Horizontal aboveground Diesel Fuel storage tank	500 gallon	
TK37	N/A	M-2	Horizontal aboveground Diesel Fuel storage tank	500 gallon	
TK38	N/A	M-3	Horizontal aboveground Diesel Fuel storage tank	500 gallon	

New units (updates) to equipment list:

Units that have been removed:					
BL02	N/A	004-02	HEP** Boiler; Cleaver Brooks 101-CBA	16.75 MMBtu/hr	2000
<sup>1</sup> For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.					

\* IFR = Internal Floating Roof

\*\* HEP = Hastings Extraction Plant

\*\*\* HECS = Hastings Electric Compressor Station

<sup>2</sup> At the time of this application (May 2016), the existing 1,000,000 gallons tank (i.e. Emission Unit ID 005-01, Emission Point ID TK03) is still in use. The existing tank (Emission Unit ID 005-01) will continue to be used until the completion of construction of the new tank (Emission Unit ID 005-02, Emission Point ID TK10).

## **Attachment E**

Emission Unit Forms

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 001-01	<b>Emission unit name:</b> EN01 Diesel-fired Fire Pump	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Diesel-fired fire pump – 300 HP

<b>Manufacturer:</b> John Deere	<b>Model number:</b> 6801HF001	<b>Serial number:</b>
<b>Construction date:</b> 2008	<b>Installation date:</b> 2008	<b>Modification date(s):</b> N/A

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

<b>Maximum Hourly Throughput:</b> 14 gal/hr	<b>Maximum Annual Throughput:</b> 122,640 gal/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 300 HP	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Diesel  
     - Maximum hourly fuel usage = 14 gal/hr  
     - Maximum annual fuel usage = 122,640 gal/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	15 ppm		19,300 Btu/lb

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.67	2.93
Nitrogen Oxides (NO <sub>x</sub> )	3.4	15.06
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.15	0.67
Particulate Matter (PM <sub>10</sub> )	0.15	0.67
Total Particulate Matter (TSP)	0.15	0.67
Sulfur Dioxide (SO <sub>2</sub> )	0.57	2.49
Volatile Organic Compounds (VOC)	0.21	0.90
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	0.01
Benzene	<0.01	0.01
Toluene	<0.01	<0.01
Naphthalene (POM)	<0.01	<0.01
Xylene	<0.01	<0.01
Acetaldehyde	<0.01	0.01
Acrolein	<0.01	<0.01
1,3-Butadiene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	321	1,408
CH <sub>4</sub>	0.013	0.057
N <sub>2</sub> O	0.003	0.011
CO <sub>2,e</sub>	323	1,413
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- PM, CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs. It has been conservatively assumed that PM=PM<sub>10</sub>=PM<sub>2.5</sub>.</li> <li>- SO<sub>2</sub> and CO<sub>2</sub> emission factor based on AP-42 Section 3.3, Table 3.3-1, 10/96.</li> <li>- HAP emission factors based on AP-42 Section 3.3, Table 3.3-2, 10/96.</li> <li>- CH<sub>4</sub> and N<sub>2</sub>O lb/MMBtu number based on 40 CFR Part 98 Table C-2 for petroleum</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 13 – Emission limits (TV 9.1.1; R13-2468, 4.1.1)

45 CSR 13 – Fuel consumption shall not exceed 14 gallons/hour and 122,640 gallons/year (TV 9.1.2; R13-2468, 4.1.5(a))

40 CFR Part 60 Subpart IIII – Emission limits (TV 9.1.5; 45 CSR 16; §60.4205(c))

40 CFR Part 60 Subpart IIII – Operate and maintain CI ICE according to manufacturer's written instructions OR procedures developed by owner or operator that are approved by manufacturer (TV 9.1.6; 45 CSR 16; §60.4206)

40 CFR Part 60 Subpart IIII – Diesel fuel shall have maximum sulfur content no greater than 15 ppm (Ultra-low sulfur diesel) with minimum centane index of 40 OR maximum aromatic content of 35 volume percent (TV 9.1.7; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.4; §60.4207(b))

40 CFR Part 60 Subpart IIII – Install non-resettable hour meter (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4209(a))

40 CFR Part 60 Subpart IIII – Limited to non-emergency operation of no more than 100 hours per year (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(f))

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

40 CFR Part 60 Subpart IIII – Maintain CI ICE according to manufacturer's written instructions (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(a)(1))

40 CFR Part 60 Subpart IIII – Engine certified base on requirements in NSPS Subpart IIII (TV 9.1.8 and TV 9.1.9; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(a)(3) and (c))

40 CFR Part 60 Subpart IIII – Maintain records of number of hours each firewater pump set operated for non-emergency situations during the month and the reason for operation (TV 9.2.1; 45 CSR 16; 45 CSR 13, R13-2468, 4.2.1; §60.4211(f))

45 CSR 13 – Maintain a monthly record of quantity of #2 diesel fuel burned and number of hours of operation; Maintain records of all diesel fuel delivered to the facility (TV 9.4.1; R13-2468, 4.4.2)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 001-02	<b>Emission unit name:</b> EN02 Diesel-fired Fire Pump	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Diesel-fired fire pump – 300 HP

<b>Manufacturer:</b> John Deere	<b>Model number:</b> 6801HF001	<b>Serial number:</b>
<b>Construction date:</b> 2008	<b>Installation date:</b> 2008	<b>Modification date(s):</b> N/A

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

<b>Maximum Hourly Throughput:</b> 14 gal/hr	<b>Maximum Annual Throughput:</b> 122,640 gal/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 300 HP	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Diesel  
 - Maximum hourly fuel usage = 14 gal/hr  
 - Maximum annual fuel usage = 122,640 gal/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	15 ppm		19,300 Btu/lb

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.67	2.93
Nitrogen Oxides (NO <sub>x</sub> )	3.4	15.06
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.15	0.67
Particulate Matter (PM <sub>10</sub> )	0.15	0.67
Total Particulate Matter (TSP)	0.15	0.67
Sulfur Dioxide (SO <sub>2</sub> )	0.57	2.49
Volatile Organic Compounds (VOC)	0.21	0.90
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	0.01
Benzene	<0.01	0.01
Toluene	<0.01	<0.01
Naphthalene (POM)	<0.01	<0.01
Xylene	<0.01	<0.01
Acetaldehyde	<0.01	0.01
Acrolein	<0.01	<0.01
1,3-Butadiene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	321	1,408
CH <sub>4</sub>	0.013	0.057
N <sub>2</sub> O	0.003	0.011
CO <sub>2,e</sub>	323	1,413
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- PM, CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs. It has been conservatively assumed that PM=PM<sub>10</sub>=PM<sub>2.5</sub>.</li> <li>- SO<sub>2</sub> and CO<sub>2</sub> emission factor based on AP-42 Section 3.3, Table 3.3-1, 10/96.</li> <li>- HAP emission factors based on AP-42 Section 3.3, Table 3.3-2, 10/96.</li> <li>- CH<sub>4</sub> and N<sub>2</sub>O lb/MMBtu number based on 40 CFR Part 98 Table C-2 for petroleum</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		



***Applicable Requirements***

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

45 CSR 13 – Emission limits (TV 9.1.1; R13-2468, 4.1.1)

45 CSR 13 – Fuel consumption shall not exceed 14 gallons/hour and 122,640 gallons/year (TV 9.1.2; R13-2468, 4.1.5(a))

40 CFR Part 60 Subpart IIII – Emission limits (TV 9.1.5; 45 CSR 16; §60.4205(c))

40 CFR Part 60 Subpart IIII – Operate and maintain CI ICE according to manufacturer's written instructions OR procedures developed by owner or operator that are approved by manufacturer (TV 9.1.6; 45 CSR 16; §60.4206)

40 CFR Part 60 Subpart IIII – Diesel fuel shall have maximum sulfur content no greater than 15 ppm (Ultra-low sulfur diesel) with minimum centane index of 40 OR maximum aromatic content of 35 volume percent (TV 9.1.7; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.4; §60.4207(b))

40 CFR Part 60 Subpart IIII – Install non-resettable hour meter (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4209(a))

40 CFR Part 60 Subpart IIII – Limited to non-emergency operation of no more than 100 hours per year (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(f))

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

40 CFR Part 60 Subpart IIII – Maintain CI ICE according to manufacturer's written instructions (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(a)(1))

40 CFR Part 60 Subpart IIII – Engine certified base on requirements in NSPS Subpart IIII (TV 9.1.8 and TV 9.1.9; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(a)(3) and (c))

40 CFR Part 60 Subpart IIII – Maintain records of number of hours each firewater pump set operated for non-emergency situations during the month and the reason for operation (TV 9.2.1; 45 CSR 16; 45 CSR 13, R13-2468, 4.2.1; §60.4211(f))

45 CSR 13 – Maintain a monthly record of quantity of #2 diesel fuel burned and number of hours of operation; Maintain records of all diesel fuel delivered to the facility (TV 9.4.1; R13-2468, 4.4.2)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 001-03	<b>Emission unit name:</b> EN03 Diesel-fired Fire Pump	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Diesel-fired fire pump – 211 HP

<b>Manufacturer:</b> John Deere	<b>Model number:</b> 6668HFC48B	<b>Serial number:</b>
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<b>Construction date:</b> 2010	<b>Installation date:</b> 2010	<b>Modification date(s):</b> N/A
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 211 HP

<b>Maximum Hourly Throughput:</b> 10.7 gal/hr	<b>Maximum Annual Throughput:</b> 93,732 gal/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 211 HP	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Diesel

- Maximum hourly fuel usage = 10.7 gal/hr
- Maximum annual fuel usage = 93,732 gal/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Diesel	15 ppm		19,300 Btu/lb

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.28	1.22
Nitrogen Oxides (NO <sub>x</sub> )	1.21	5.30
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.04	0.16
Particulate Matter (PM <sub>10</sub> )	0.04	0.16
Total Particulate Matter (TSP)	0.04	0.16
Sulfur Dioxide (SO <sub>2</sub> )	0.43	1.90
Volatile Organic Compounds (VOC)	0.05	0.20
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	0.01
Benzene	<0.01	0.01
Toluene	<0.01	<0.01
Naphthalene (POM)	<0.01	<0.01
Xylene	<0.01	<0.01
Acetaldehyde	<0.01	<0.01
Acrolein	<0.01	<0.01
1,3-Butadiene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	246	1,076
CH <sub>4</sub>	0.010	0.043
N <sub>2</sub> O	0.002	0.009
CO <sub>2,e</sub>	247	1,080
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- PM, CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs. It has been conservatively assumed that PM=PM<sub>10</sub>=PM<sub>2.5</sub>.</li> <li>- SO<sub>2</sub> and CO<sub>2</sub> emission factor based on AP-42 Section 3.3, Table 3.3-1, 10/96.</li> <li>- HAP emission factors based on AP-42 Section 3.3, Table 3.3-2, 10/96.</li> <li>- CH<sub>4</sub> and N<sub>2</sub>O lb/MMBtu number based on 40 CFR Part 98 Table C-2 for petroleum</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 13 – Emission limits (TV 9.1.3; R13-2468, 4.1.2)

45 CSR 13 – Fuel consumption shall not exceed 10.7 gallons/hour and 93,732 gallons/year (TV 9.1.4; R13-2468, 4.1.5(b))

40 CFR Part 60 Subpart IIII – Emission limits (TV 9.1.5; 45 CSR 16; §60.4205(c))

40 CFR Part 60 Subpart IIII – Operate and maintain CI ICE according to manufacturer's written instructions OR procedures developed by owner or operator that are approved by manufacturer (TV 9.1.6; 45 CSR 16; §60.4206)

40 CFR Part 60 Subpart IIII – Diesel fuel shall have maximum sulfur content no greater than 15 ppm (Ultra-low sulfur diesel) with minimum cetane index of 40 OR maximum aromatic content of 25 volume percent (TV 9.1.7; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.1; §60.4207(b))

40 CFR Part 60 Subpart IIII – Install non-resettable hour meter (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4209(a))

40 CFR Part 60 Subpart IIII – Limited to non-emergency operation of no more than 100 hours per year (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(f))

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

40 CFR Part 60 Subpart IIII – Maintain CI ICE according to manufacturer's written instructions (TV 9.1.8; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(a)(1))

40 CFR Part 60 Subpart IIII – Engine certified base on requirements in NSPS Subpart IIII (TV 9.1.8 and TV 9.1.9; 45 CSR 16; 45 CSR 13, R13-2468, 4.1.3; §60.4211(a)(3) and (c))

40 CFR Part 60 Subpart IIII – Maintain records of number of hours each firewater pump set operated for non-emergency situations during the month and the reason for operation (TV 9.2.1; 45 CSR 16; 45 CSR 13, R13-2468, 4.2.1; §60.4211(f))

45 CSR 13 – Maintain a monthly record of quantity of #2 diesel fuel burned and number of hours of operation; Maintain records of all diesel fuel delivered to the facility (TV 9.4.1; R13-2468, 4.4.2)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 001-04	<b>Emission unit name:</b> EN04 Fire Water Pump	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Natural gas-fired water pump

<b>Manufacturer:</b> Waukesha	<b>Model number:</b> F1197GUF	<b>Serial number:</b> 230074
<b>Construction date:</b> 1971	<b>Installation date:</b> 1971	<b>Modification date(s):</b> N/A

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

<b>Maximum Hourly Throughput:</b> 0.0008 MMscf/hr	<b>Maximum Annual Throughput:</b> 7.01 MMscf/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 150 HP	<b>Type and Btu/hr rating of burners:</b> 0.8 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas  
 - Maximum hourly fuel usage = 0.0008 MMscf/hr  
 - Maximum annual fuel usage = 7.01 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	2.34	10.25
Nitrogen Oxides (NO <sub>x</sub> )	3.00	13.14
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.02	0.07
Particulate Matter (PM <sub>10</sub> )	0.02	0.07
Total Particulate Matter (TSP)	0.02	0.07
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	<0.01
Volatile Organic Compounds (VOC)	0.54	2.37
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.02	0.07
Benzene	<0.01	0.01
Toluene	<0.01	<0.01
Naphthalene (POM)	<0.01	<0.01
Xylene	<0.01	<0.01
Acetaldehyde	<0.01	0.01
Acrolein	<0.01	0.01
1,3-Butadiene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	90	394
CH <sub>4</sub>	0.002	0.007
N <sub>2</sub> O	0.000	0.001
CO <sub>2,e</sub>	90	394
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs.</li> <li>- PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, HAP, CO<sub>2</sub>, and CH<sub>4</sub> emission factors based on AP-42 Section 3.2, Table 3.2-3, 8/00.</li> <li>- PM-10 (total) = PM-10 (filterable) + PM (condensables)</li> <li>- PM-2.5 (total) = PM-2.5 (filterable) + PM (condensables)</li> <li>- PM (TSP) = PM (filterable) + PM (condensables)</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

40 CFR Part 63 Subpart ZZZZ – NESHAP maintenance requirements (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – NESHAP operating requirements (TV 6.1.2; §63.6605 and §63.6625)  
40 CFR Part 63 Subpart ZZZZ – NESHAP continuous compliance requirements (TV 6.1.2; §63.6640)  
40 CFR Part 63 Subpart ZZZZ – NESHAP general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – NESHAP recordkeeping requirements (TV 6.4.1; §63.6655 and §63.6660)

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

40 CFR Part 63 Subpart ZZZZ – Change oil and filter, inspect spark plugs, and inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first (TV 6.1.2, §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Operate and maintain the RICE, including associated air pollution control equipment and monitoring equipment, and develop and follow own maintenance plan (TV 6.1.2; §63.6605, §63.6625, and §63.6640)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable monitoring and recordkeeping requirements (TV 6.2 and 6.4; §63.6635, §63.6655, and §63.6660)  
40 CFR Part 63 Subpart ZZZZ – Keep records of maintenance conducted on the RICE (TV 6.4; §63.6655 and §63.6660)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 002-02	<b>Emission unit name:</b> AUX02 Emergency Generator	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Natural gas-fired emergency generator

<b>Manufacturer:</b> Kohler	<b>Model number:</b> 4P8	<b>Serial number:</b> 642317
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<b>Construction date:</b>	<b>Installation date:</b> 2002	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
67 HP

<b>Maximum Hourly Throughput:</b> 0.000945 MMscf/hr	<b>Maximum Annual Throughput:</b> 0.47 MMscf/yr	<b>Maximum Operating Schedule:</b> 500 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 67 HP	<b>Type and Btu/hr rating of burners:</b> 0.945 MMbtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas  
 - Maximum hourly fuel usage = 0.000945 MMscf/hr  
 - Maximum annual fuel usage = 0.47 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf



<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	15.08	3.77
Nitrogen Oxides (NO <sub>x</sub> )	1.56	0.39
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.02	<0.01
Particulate Matter (PM <sub>10</sub> )	0.02	<0.01
Total Particulate Matter (TSP)	0.02	<0.01
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	<0.01
Volatile Organic Compounds (VOC)	0.07	0.02
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.02	<0.01
Acrolein	<0.01	<0.01
Acetaldehyde	<0.01	<0.01
Benzene	<0.01	<0.01
Ethylbenzene	<0.01	<0.01
Toluene	<0.01	<0.01
Xylene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	111	28
CH <sub>4</sub>	0.002	0.001
N <sub>2</sub> O	0.000	0.000
CO <sub>2,e</sub>	111	28
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs.</li> <li>- PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, HAP, CO<sub>2</sub>, and CH<sub>4</sub> emission factors based on AP-42 Section 3.2, Table 3.2-3, 8/00.</li> <li>- PM-10 (total) = PM-10 (filterable) + PM (condensables)</li> <li>- PM-2.5 (total) = PM-2.5 (filterable) + PM (condensables)</li> <li>- PM (TSP) = PM (filterable) + PM (condensables)</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

### ***Applicable Requirements***

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

45 CSR 13 – Limit of 500 hours of operation per year (TV 6.1.1)  
40 CFR Part 63 Subpart ZZZZ – NESHAP maintenance requirements (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – NESHAP operating requirements (TV 6.1.2; §6.6605 and §63.6625)  
40 CFR Part 63 Subpart ZZZZ – NESHAP continuous compliance requirements (TV 6.1.2; §63.6640)  
40 CFR Part 63 Subpart ZZZZ – NESHAP general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – NESHAP recordkeeping requirements (TV 6.4.1; §63.6655 and §63.6660)

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

40 CFR Part 63 Subpart ZZZZ – Change oil and filter and inspect hoses and belts once every 500 hours of operation or annually, whichever comes first (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Operate and maintain the RICE, including associated air pollution control equipment and monitoring equipment, according to the manufacturer's instructions OR develop and follow your own maintenance plan (TV 6.1.2; §63.6605, §63.6625, and §63.6640)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable monitoring and recordkeeping requirements (TV 6.2 and 6.4; §63.6635, §63.6655, and §63.6660)  
40 CFR Part 63 Subpart ZZZZ – Keep records of maintenance conducted on the RICE (TV 6.4; §63.6655 and §63.6660)  
45 CSR 13 – Record the hours of operation and maintain a 12 month rolling total on a monthly basis (TV 6.2.2; R13-2468, 6.2.1)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 002-03	<b>Emission unit name:</b> AUX03 Emergency Generator	<b>List any control devices associated with this emission unit:</b>  N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Natural gas-fired emergency generator

<b>Manufacturer:</b> Dayton	<b>Model number:</b> 4LM43	<b>Serial number:</b> T902170435
<b>Construction date:</b>	<b>Installation date:</b> 2004	<b>Modification date(s):</b> N/A

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

<b>Maximum Hourly Throughput:</b> 0.000769 MMscf/hr	<b>Maximum Annual Throughput:</b> 0.38MMscf/yr	<b>Maximum Operating Schedule:</b> 500 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 57 HP	<b>Type and Btu/hr rating of burners:</b> 0.769 MMbtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas  
 - Maximum hourly fuel usage = 0.000769 MMscf/hr  
 - Maximum annual fuel usage = 0.38 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	2.86	0.72
Nitrogen Oxides (NO <sub>x</sub> )	1.70	0.42
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.01	<0.01
Particulate Matter (PM <sub>10</sub> )	0.01	<0.01
Total Particulate Matter (TSP)	0.01	<0.01
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	<0.01
Volatile Organic Compounds (VOC)	0.02	0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.02	<0.01
Acrolein	<0.01	<0.01
Acetaldehyde	<0.01	<0.01
Benzene	<0.01	<0.01
Ethylbenzene	<0.01	<0.01
Toluene	<0.01	<0.01
Xylene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	90	22
CH <sub>4</sub>	0.002	0.000
N <sub>2</sub> O	0.000	0.000
CO <sub>2,e</sub>	90	23
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs.</li> <li>- PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, HAP, CO<sub>2</sub>, and CH<sub>4</sub> emission factors based on AP-42 Section 3.2, Table 3.2-3, 8/00.</li> <li>- PM-10 (total) = PM-10 (filterable) + PM (condensables)</li> <li>- PM-2.5 (total) = PM-2.5 (filterable) + PM (condensables)</li> <li>- PM (TSP) = PM (filterable) + PM (condensables)</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

### ***Applicable Requirements***

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

40 CFR Part 63 Subpart ZZZZ – NESHAP maintenance requirements (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – NESHAP operating requirements (TV 6.1.2; §6.6605 and §63.6625)  
40 CFR Part 63 Subpart ZZZZ – NESHAP continuous compliance requirements (TV 6.1.2; §63.6640)  
40 CFR Part 63 Subpart ZZZZ – NESHAP general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – NESHAP recordkeeping requirements (TV 6.4.1; §63.6655 and §63.6660)

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

40 CFR Part 63 Subpart ZZZZ – Change oil and filter and inspect hoses and belts once every 500 hours of operation or annually, whichever comes first (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Operate and maintain the RICE, including associated air pollution control equipment and monitoring equipment, according to the manufacturer's instructions OR develop and follow your own maintenance plan (TV 6.2.1; §63.6605, §63.6625, and §63.6640)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable general requirements/provisions (TV 6.2.1; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable monitoring and recordkeeping requirements (TV 6.2 and 6.4; §63.6655 and §63.6660)  
40 CFR Part 63 Subpart ZZZZ – Keep records of maintenance conducted on the RICE (TV 6.4; §63.6655 and §63.6660)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 002-04	<b>Emission unit name:</b> AUX04 Emergency Generator	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Natural gas-fired emergency generator

<b>Manufacturer:</b> Cummins, Onan	<b>Model number:</b> GGFC-3377724	<b>Serial number:</b> F1197GUF
<b>Construction date:</b> 8/16/1999	<b>Installation date:</b> 2005	<b>Modification date(s):</b> N/A

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

<b>Maximum Hourly Throughput:</b> 0.001224 MMscf/hr	<b>Maximum Annual Throughput:</b> 0.61 MMscf/yr	<b>Maximum Operating Schedule:</b> 500 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 120 HP	<b>Type and Btu/hr rating of burners:</b> 1.224 MMbtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas  
 - Maximum hourly fuel usage = 0.001224 MMscf/hr  
 - Maximum annual fuel usage = 0.61 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	4.55	1.14
Nitrogen Oxides (NO <sub>x</sub> )	2.71	0.68
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.02	<0.01
Particulate Matter (PM <sub>10</sub> )	0.02	<0.01
Total Particulate Matter (TSP)	0.02	<0.01
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	<0.01
Volatile Organic Compounds (VOC)	0.04	0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	0.03	0.01
Acrolein	<0.01	<0.01
Acetaldehyde	<0.01	<0.01
Benzene	<0.01	<0.01
Ethylbenzene	<0.01	<0.01
Toluene	<0.01	<0.01
Xylene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	143	36
CH <sub>4</sub>	0.003	0.0007
N <sub>2</sub> O	0.000	0.0001
CO <sub>2,e</sub>	143	36
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- CO, NO<sub>x</sub>, and VOC emission rates based on manufacturer specs.</li> <li>- PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, HAP, CO<sub>2</sub>, and CH<sub>4</sub> emission factors based on AP-42 Section 3.2, Table 3.2-3, 8/00.</li> <li>- PM-10 (total) = PM-10 (filterable) + PM (condensables)</li> <li>- PM-2.5 (total) = PM-2.5 (filterable) + PM (condensables)</li> <li>- PM (TSP) = PM (filterable) + PM (condensables)</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

### ***Applicable Requirements***

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

40 CFR Part 63 Subpart ZZZZ – NESHAP maintenance requirements (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – NESHAP operating requirements (TV 6.1.2; §6.6605 and §63.6625)  
40 CFR Part 63 Subpart ZZZZ – NESHAP continuous compliance requirements (TV 6.1.2; §63.6640)  
40 CFR Part 63 Subpart ZZZZ – NESHAP general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – NESHAP recordkeeping requirements (TV 6.4.1; §63.6655 and §63.6660)

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

40 CFR Part 63 Subpart ZZZZ – Change oil and filter and inspect hoses and belts once every 500 hours of operation or annually, whichever comes first (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first (TV 6.1.2; §63.6603)  
40 CFR Part 63 Subpart ZZZZ – Operate and maintain the RICE, including associated air pollution control equipment and monitoring equipment, according to the manufacturer's instructions OR develop and follow your own maintenance plan (TV 6.1.2; §63.6605, §63.6625, and §63.6640)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable general requirements/provisions (TV 6.1.2; §63.6665)  
40 CFR Part 63 Subpart ZZZZ – Comply with all applicable monitoring and recordkeeping requirements (TV 6.2 and 6.4; §63.6635, §63.6655, and §63.6660)  
40 CFR Part 63 Subpart ZZZZ – Keep records of maintenance conducted on the RICE (TV 6.4; §63.6655 and §63.6660)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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



## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 004-01	<b>Emission unit name:</b> BL01 Boiler	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Boiler – 25.1 MMBtu/hr

<b>Manufacturer:</b> Cleaver Brooks	<b>Model number:</b> 101-CB	<b>Serial number:</b> L-5235
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<b>Construction date:</b> 07/12/1971	<b>Installation date:</b> 1971	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
25.1 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 0.0251 MMscf/hr	<b>Maximum Annual Throughput:</b> 219.9 MMscf/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 25.1 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 25.1 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas  
 - Maximum hourly fuel usage = 0.0251 MMscf/hr  
 - Maximum annual fuel usage = 219.9 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	2.11	9.23
Nitrogen Oxides (NO <sub>x</sub> )	2.51	10.99
Lead (Pb)	<0.01	<0.01
Particulate Matter (PM <sub>2.5</sub> )	0.19	0.84
Particulate Matter (PM <sub>10</sub> )	0.19	0.84
Total Particulate Matter (TSP)	0.19	0.84
Sulfur Dioxide (SO <sub>2</sub> )	0.02	0.07
Volatile Organic Compounds (VOC)	0.14	0.60
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	0.01
Benzene	<0.01	<0.01
Toluene	<0.01	<0.01
Hexane	0.05	0.20
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	2,936	12,861
CH <sub>4</sub>	0.055	0.242
N <sub>2</sub> O	0.006	0.024
CO <sub>2,e</sub>	2,939	12,874
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- VOC, PM, PM10, PM2.5, lead, and SO2 emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2, 7/98. It has been conservatively assumed that PM=PM10=PM2.5.</li> <li>- NOx and CO emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-1, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-3, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-4, 7/98.</li> <li>- Lb/MMBtu numbers based on 40 CFR Part 98 Tables C-1 and C-2 for natural gas</li> <li>- Global Warming Potentials = 1 for CO2, 25 for CH4, and 298 for N2O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 2-3.1 – Opacity limit of less than ten (10) percent (TV 4.1.1)

45 CSR 2-4.1.b – Particulate matter emission limit (TV 4.1.2)

45 CSR 10-3.1.e – SO<sub>2</sub> emission limit (TV 4.1.3)

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

45 CSR 2A-7.1.a.1 & 2-8.3.c – Maintain records of hours of operation, date and time of startup and shutdown, and natural gas consumption on a monthly basis (TV 4.4.1 and 4.4.2)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> BL03	<b>Emission unit name:</b> BL03 Boiler	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Boiler – 25.2 MMBtu/hr

<b>Manufacturer:</b> Superior	<b>Model number:</b> X6-X-3000	<b>Serial number:</b> 17840
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<b>Construction date:</b>	<b>Installation date:</b> 06/11/2015	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
25.2 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 0.0252 MMscf/hr	<b>Maximum Annual Throughput:</b> 220.8 MMscf/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 25.2 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 25.2 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas  
 - Maximum hourly fuel usage = 0.0252 MMscf/hr  
 - Maximum annual fuel usage = 220.8 MMscf/hr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.93	4.08
Nitrogen Oxides (NO <sub>x</sub> )	0.73	3.20
Lead (Pb)	<0.01	<0.01
Particulate Matter (PM <sub>2.5</sub> )	0.12	0.53
Particulate Matter (PM <sub>10</sub> )	0.12	0.53
Total Particulate Matter (TSP)	0.12	0.53
Sulfur Dioxide (SO <sub>2</sub> )	0.02	0.07
Volatile Organic Compounds (VOC)	0.63	2.76
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	0.01
Benzene	<0.01	<0.01
Toluene	<0.01	<0.01
Hexane	0.05	0.20
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	2,948	12,912
CH <sub>4</sub>	0.055	0.243
N <sub>2</sub> O	0.006	0.024
CO <sub>2,e</sub>	2,951	12,925
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- VOC, PM, PM10, PM2.5, lead, and SO2 emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2, 7/98. It has been conservatively assumed that PM=PM10=PM2.5.</li> <li>- NOx and CO emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-1, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-3, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-4, 7/98.</li> <li>- Lb/MMBtu numbers based on 40 CFR Part 98 Tables C-1 and C-2 for natural gas</li> <li>- Global Warming Potentials = 1 for CO2, 25 for CH4, and 298 for N2O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 2-3.1 – Opacity limit of less than ten (10) percent (TV 4.1.1)

45 CSR 2-4.1.b – Particulate matter emission limit (TV 4.1.2)

45 CSR 2-4.1.e – SO<sub>2</sub> emission limit (TV 4.1.3)

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

45 CSR 2A-7.1.a.1 & 2-8.3.c – Maintain records of hours of operation, date and time of startup and shutdown, and natural gas consumption on a monthly basis (TV 4.4.1 and 4.4.2; §60.48c(g)(2))

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 004-05	<b>Emission unit name:</b> HTR3 Hot Oil Heater	<b>List any control devices associated with this emission unit:</b>  N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

70.0 MMBtu/hr Heater

<b>Manufacturer:</b> Optimized Process Furnaces (OPF)	<b>Model number:</b> PSFR-20RN	<b>Serial number:</b> J02835
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<b>Construction date:</b> 05/2002	<b>Installation date:</b> 2003	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**

70.0 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 0.070 MMscf/hr	<b>Maximum Annual Throughput:</b> 613.2 MMscf/yr	<b>Maximum Operating Schedule:</b> 8,760
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 70.0 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 70.0 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas

- Maximum hourly fuel usage = 0.070 MMscf/hr
- Maximum annual fuel usage = 613.2 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	2.80	12.26
Nitrogen Oxides (NO <sub>x</sub> )	3.50	15.33
Lead (Pb)	<0.01	<0.01
Particulate Matter (PM <sub>2.5</sub> )	0.53	2.33
Particulate Matter (PM <sub>10</sub> )	0.53	2.33
Total Particulate Matter (TSP)	0.53	2.33
Sulfur Dioxide (SO <sub>2</sub> )	0.04	0.18
Volatile Organic Compounds (VOC)	0.70	3.07
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Hexane	0.13	0.55
Formaldehyde	0.01	0.02
Benzene	<0.01	<0.01
Toluene	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	8,189	35,866
CH <sub>4</sub>	0.154	0.675
N <sub>2</sub> O	0.015	0.067
CO <sub>2</sub> e	8,197	35,903
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- PM, SO<sub>2</sub>, and lead emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2, 7/98. It has been conservatively assumed that PM=PM<sub>10</sub>=PM<sub>2.5</sub>.</li> <li>- NO<sub>x</sub>, CO, and VOC emission factors from manufacturer specification sheets.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-3, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-4, 7/98.</li> <li>- Lb/MMBtu numbers based on 40 CFR Part 98 Tables C-1 and C-2 for natural gas</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		



### ***Applicable Requirements***

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

45 CSR 2-3.1 & 45 CSR 13 – Opacity limit of less than ten (10) percent (TV 5.1.1; R13-2468, 5.1.4)

45 CSR 2-4.1 & 45 CSR 13 – Emission limits (TV 5.1.2; R13-2468, 5.1.1)

45 CSR 13 – Combust natural gas or process gas generated from the extraction plant; maximum fuel consumption of 70,000 scf/hr and  $6.13 \times 10^8$  scf/yr (TV 5.1.3; R13-2468, 5.1.2)

45 CSR 10-3.1, 45 CSR 10-5.1, 45 CSR 10A-2.7, & 45 CSR 13 – Fuel shall not have a total sulfur concentration of greater than 20 gr/100 dscf (TV 5.1.4; R13-2468, 5.1.3)

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

45 CSR 2-8.3, 45 CSR 2A-7.1.a.1 & 45 CSR 13 – Maintain monthly records of quantity of fuel burned by heater and the hours of operation (TV 5.4.1; R13-2468, 5.4.6)

45 CSR 30-5.1.c – Maintain all required records for a minimum of 5 years (TV 5.4.2)

45 CSR 10-3.1, 45 CSR 10-5.1, 45 CSR 10A-2.7, & 45 CSR 13 – Combust pipeline quality natural gas (TV 5.1.3 and 5.1.4; R13-2468, 5.1.2 and 5.1.3)

45 CSR 10-3.1, 45 CSR 10-5.1, 45 CSR 10A-2.7, & 45 CSR 13 – Annual sampling of natural gas to determine hydrogen sulfide content (TV 5.1.4; R13-2468, 5.1.3)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 005-02	<b>Emission unit name:</b> TK10	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

1,000,000 Gallon Vertical Floating Roof Natural Gasoline Storage Tank; Aboveground Storage Tank

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 2016	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 1,000,000 gallon

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 8,760 hours/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> ___ Yes <u>X</u> No	<b>If yes, is it?</b> ___ Indirect Fired    ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO <sub>x</sub> )	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	N/A	N/A
Particulate Matter (PM <sub>10</sub> )	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO <sub>2</sub> )	N/A	N/A
Volatile Organic Compounds (VOC)	0.32	1.40
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <p>TANKS 4.0.9d</p>		

### ***Applicable Requirements***

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

40 CFR Part 60 Subpart Kb – VOC emissions from working and breathing losses shall not exceed 1.4 tons per year and have a Reid Vapor Pressure no greater than 15.5 psia; tank equipment and operating requirements (TV 7.1.1; 40 CFR 16; §60.112b(a)(1)(i) through (ix))  
45 CSR 13-5.11 – Operation and maintenance of air pollution control equipment (TV 7.1.2; 45 CSR 13, R13-2468D, 5.1.8)

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

40 CFR Part 60 Subpart Kb – Initial inspection and maintenance of tank (TV 7.2.1; 40 CSR 16; 40 CSR 13, R13-2468DD, 5.2.1; §60.113b(a)(1) and §60.115b(a)(2))  
40 CFR Part 60 Subpart Kb – Floating roof and primary/secondary seal inspection schedule and requirements (TV 7.2.2; 40 CSR 16; 40 CSR 13, R13-2468DD, 5.2.2; §60.113b(a)(2) through (4))  
45 CSR 13 – Tank contents shall be sampled at least once per calendar quarter to determine Reid Vapor Pressure (TV 7.2.3; R13-2468DD, 5.2.3)  
45 CSR 30-5.1.c – Maintain records of tank's monthly throughput of natural gasoline and 12 month rolling total to be used to estimate hourly and annual VOC emission using the TANKS program; Records must be maintained for a minimum of 5 years (TV 7.4.1)  
40 CFR Part 60 Subpart Kb – Maintain records of tank and control equipment inspections (TV 7.4.2; 45 CSR 16; §60.115b(a)(2))  
40 CFR Part 60 Subpart Kb – Maintain records of dimensions and capacity of storage vessel (TV 7.4.3; 45 CSR 16, 45 CSR 13, R13-2468D, 5.4.4)  
40 CFR Part 60 Subpart Kb – Maintain record of volatile organic liquid stored, period of storage, and maximum true vapor pressure during storage period; maintain records for minimum of 5 years (TV 7.4.4; 45 CSR 16; 45 CSR 13, R13-2468D, 5.4.5)  
45 CSR 13 – Record of maintenance of air pollution control equipment (TV 7.4.5; R13-2468D, 5.4.2)  
45 CSR 13 – Record of malfunctions of air pollution control equipment (TV 7.4.6; R13-2468D, 5.4.3)  
40 CFR Part 60 Subpart Kb – Initial tank inspection reporting (TV 7.5.1; 45 CSR 16; 45 CSR 13, R13-2468D, 5.5.2; §60.115b(a)(1) and §60.7(a)(3))  
40 CFR Part 60 Subpart Kb – Notify Director in writing prior to filling or refilling of tank (TV 7.5.2; 45 CSR 16, 45 CSR 13, R13-2468D, 5.5.3; §60.113b(a)(5))  
40 CFR Part 60 Subpart Kb – Submit tank inspection report to Director if defections detected during required inspection and maintain records according to TV 3.4.2 (TV 7.5.3; 45 CSR 16; 45 CSR 13, R13-2468D, 5.5.4; §60.115b(a)(3) and (a)(4))

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 006-01	<b>Emission unit name:</b> LOAD/VS-1	<b>List any control devices associated with this emission unit:</b> C-1
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Truck and Rail Car Loading Operations at Galmish and the NGL unloading area. Loading of i-butane, n-butane, natural gasoline, and propane at Galmish. Loading of natural gasoline at NGL unloading area.

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 1951	<b>Modification date(s):</b> 2010 - 2012
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 550 GPM of each gasoline, propane, i-butane, and n-butane

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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**Fuel Usage Data (fill out all applicable fields)**

<b>Does this emission unit combust fuel?</b> ___Yes <u>X</u> No	<b>If yes, is it?</b>  ___ Indirect Fired    ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO <sub>x</sub> )	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	N/A	N/A
Particulate Matter (PM <sub>10</sub> )	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO <sub>2</sub> )	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	361.37
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Toluene	N/A	0.29
Benzene	N/A	0.18
Xylene	N/A	0.12
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- Values taken from Attachments L and N of the August 2015 R13 permit application.</li> <li>- Potential number of trucks loaded with i-butane and n-butane are determined by taking the maximum number of trucks loaded per year over ten years and conservatively assuming 10% factor of safety, rounded up to the nearest multiple of 10.</li> </ul>		

***Applicable Requirements***

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

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

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 007-01	<b>Emission unit name:</b> FUG Fugitive Emissions	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Plant wide Fugitive Emissions (includes HECS, slug catcher, Galmish loading, and NGL unloading)

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b>	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> ___ Yes <u>X</u> No	<b>If yes, is it?</b> ___ Indirect Fired    ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value



<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO <sub>x</sub> )	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	N/A	N/A
Particulate Matter (PM <sub>10</sub> )	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO <sub>2</sub> )	N/A	N/A
Volatile Organic Compounds (VOC)		163.08
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

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

- The HEP component count is the component count at HEP as of July 2014. The non-HEP component count is the current component count at non-HEP locations (slug catcher, HECS, Galmish loading, Tank 10, HCS, and NGL unloading).
- Emission Factors from: 1995 Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017), Table 2-1 SOCM I Average Emission Factors.
- Control efficiency from: 1995 Protocol for Equipment Leak Emission Estimates (EPA-453/R-95-017), Table 5-2. Assumes monthly leak detection. If no efficiency was published, none was assumed.
- VOC mass fraction for components in gas service is taken from the February 13, 2014 Vent Stack letter to EPA. Light liquid components assumed to be 100% VOC.
- CH<sub>4</sub> and HAP mass fraction for components in gas service is taken from the February 13, 2014 Vent Stack letter to EPA. Light liquid components assumed to be 0% methane. HAP concentration assumed to be same as that in natural gasoline.

### ***Applicable Requirements***

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

Consent Order – Implementation of a leak detection and repair (LDAR) program (CO-R13-E-2015-13 dated June 26, 2015)

40 CFR Part 60 Subpart KKK – LDAR standards and exceptions (TV 8.1.1; 45 CSR 16; 45 CSR 13, R13-2468, 5.1.5; §60.632, §60.633)

40 CFR Part 60 Subpart KKK – Marking of equipment leaks and record logs (TV 8.1.2; 45 CSR 16; §60.635(a))

40 CFR Part 60 Subpart KKK – The pertinent sections of 40 CFR Part 60 Subpart VV are applicable to this facility through references found in Subpart KKK, including, but not limited to, the requirements listed below (TV 8.1.3; 45 CSR 16; 45 CSR 13, R13-2468, 5.1.5 and 5.1.6):

- Pumps in light liquid service (TV 8.1.3.1; §60.482-2(a), (b), and (c))
- Pressure relief devices in gas/vapor service (TV 8.1.3.2; §60.482-4(a) and (b) and §60.633(b))
- Sampling connection systems (TV 8.1.3.3; §60.482-5(a) and (b))
- Open-ended valves or lines (TV 8.1.3.4; §60.482-6(a), (b), and (c))
- Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors (TV 8.1.3.5; §60.482-8(a), (b), and (c))
- Delay of repair (TV 8.1.3.6; §60.482-9(a) through (e))
- Closed vent systems and control devices (TV 8.1.3.7; §60.482-10(a) and (e))
- Alternative standards for valves—skip period leak detection and repair (TV 8.1.3.8; §60.843-1(a) and (b) and §60.843-2(a) and (b))

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

40 CFR Part 60 Subpart KKK – Recordkeeping requirements (TV 8.2; 45 CSR 16; 45 CSR 13, R13-2468, 5.4.7; §60.635 and §60.486)

40 CFR Part 60 Subpart KKK – Reporting requirements (TV 8.3; 45 CSR 16; 45 CSR 13, R13-2468, 5.5.1; §60.636(c), §60.487(c), and §60.19(d))

**Are you in compliance with all applicable requirements for this emission unit?** ☒X Yes ☐No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> 007-01 (Emission Point)	<b>Emission unit name:</b> VS-1 (Emission Point)	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Plant wide vented emissions and emergency vent relief. The vent stack is not considered an emission unit, but it is an emission point for various operations at the facility.

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 1951	<b>Modification date(s):</b> 2015
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> ___ Yes <u>X</u> No	<b>If yes, is it?</b>  ___ Indirect Fired    ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

### *Emissions Data*

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO <sub>x</sub> )	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	N/A	N/A
Particulate Matter (PM <sub>10</sub> )	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO <sub>2</sub> )	N/A	N/A
Volatile Organic Compounds (VOC)	N/A	19.23
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2,e</sub>	N/A	20.30
<b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b>		
<ul style="list-style-type: none"> <li>- Gas analysis values from 2/13/2014 letter.</li> <li>- Gas throughput values based on August 2015 R13 Permit Application calculations</li> <li>- Potential Emissions (lb/yr) = Total Throughput (cf/yr) * Gas Density (lb/cf) * Vol%</li> <li>- Potential VOC Emissions (lb/yr) = Throughput (lb/yr) * Specific Gravity</li> <li>- Potential HAP Emissions (lb/yr) = Potential VOC Emissions * HAP Content (wt%)</li> </ul>		

***Applicable Requirements***

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

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

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> T-FW-1	<b>Emission unit name:</b> FW-1	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Natural gas-fired fire water heater

<b>Manufacturer:</b> Brown Fired Heater	<b>Model number:</b> 302-6	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 2002	<b>Modification date(s):</b> N/A
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
0.20 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 0.0002 MMscf/hr	<b>Maximum Annual Throughput:</b> 1.75 MMscf/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 0.20 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 0.20 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas

- Maximum daily fuel usage = 0.0002 MMscf/hr
- Maximum annual fuel usage = 1.75 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.01	0.04
Nitrogen Oxides (NO <sub>x</sub> )	0.02	0.08
Lead (Pb)	<0.01	<0.01
Particulate Matter (PM <sub>2.5</sub> )	<0.01	0.01
Particulate Matter (PM <sub>10</sub> )	<0.01	0.01
Total Particulate Matter (TSP)	<0.01	0.01
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	<0.01
Volatile Organic Compounds (VOC)	<0.01	<0.01
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	<0.01
Benzene	<0.01	<0.01
Toluene	<0.01	<0.01
Hexane	<0.01	<0.01
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	23	102
CH <sub>4</sub>	0.000	0.002
N <sub>2</sub> O	0.000	0.000
CO <sub>2,e</sub>	23	103
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- VOC, PM, PM10, PM2.5, lead, and SO2 emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2, 7/98. It has been conservatively assumed that PM=PM10=PM2.5.</li> <li>- NOx and CO emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-1, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-3, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-4, 7/98.</li> <li>- Lb/MMBtu numbers based on 40 CFR Part 98 Tables C-1 and C-2 for natural gas</li> <li>- Global Warming Potentials = 1 for CO2, 25 for CH4, and 298 for N2O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 13 – Fire water heaters are limited to being fired with natural gas (TV 6.1.3; R13-2468, 6.1.2)

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

45 CSR 13 – Fire water heaters will be limited to being fired with natural gas (TV 6.1.3; R13-2468, 6.1.2)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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



## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> T-FW-2	<b>Emission unit name:</b> FW-2	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Propane-fired fire water heater

<b>Manufacturer:</b> RBI	<b>Model number:</b> LB1650	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 2006	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 1.65 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 18.03 gallons/hr	<b>Maximum Annual Throughput:</b> 157,967 gallons/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 1.65 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 1.65 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Propane

- Maximum daily fuel usage = 18.03 gallon/hr
- Maximum annual fuel usage = 157,967 gallons/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Propane	1 gr sulfur/100 cf	N/A	91.5 MMBtu/gal

### *Emissions Data*

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.14	0.59
Nitrogen Oxides (NO <sub>x</sub> )	0.23	1.03
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.01	0.06
Particulate Matter (PM <sub>10</sub> )	0.01	0.06
Total Particulate Matter (TSP)	0.01	0.06
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	0.01
Volatile Organic Compounds (VOC)	0.02	0.08
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	225	987
CH <sub>4</sub>	0.004	0.016
N <sub>2</sub> O	0.016	0.071
CO <sub>2,e</sub>	230	1,009
<b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b> <ul style="list-style-type: none"> <li>- Emission factors from AP-42, Section 1.5, Liquefied Petroleum Gas Combustion, Table 1.5-1, 7/08. It has been conservatively assumed that PM=PM10=PM2.5. Factors are converted to lb/MMBtu by dividing the lb/103 gal value by the heating value of propane (91.5 MMBtu/103).</li> <li>- Assumes a sulfur content of 1 gr/100 ft<sup>3</sup>.</li> <li>- Global Warming Potentials = 1 for CO<sub>2</sub>, 25 for CH<sub>4</sub>, and 298 for N<sub>2</sub>O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 13 – Limited to being fired with propane (TV 9.2.1)

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

45 CSR 13 – Limit to being fired with propane (TV 9.2.1)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> T-FW-3	<b>Emission unit name:</b> FW-3	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Natural gas-fired fire water heater

<b>Manufacturer:</b> RBI	<b>Model number:</b> MB3000	<b>Serial number:</b> 11157816
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<b>Construction date:</b>	<b>Installation date:</b> 2010	<b>Modification date(s):</b> N/A
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
3.0 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 0.003 MMscf/hr	<b>Maximum Annual Throughput:</b> 26.28 MMscf/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 3.0 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 3.0 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Pipeline quality natural gas

- Maximum daily fuel usage = 0.003 MMscf/hr
- Maximum annual fuel usage = 26.28 MMscf/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Pipeline quality natural gas	20 gr sulfur/100 cf	N/A	1,000 Btu/cf

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.25	1.10
Nitrogen Oxides (NO <sub>x</sub> )	0.30	1.31
Lead (Pb)	<0.01	<0.01
Particulate Matter (PM <sub>2.5</sub> )	0.02	0.10
Particulate Matter (PM <sub>10</sub> )	0.02	0.10
Total Particulate Matter (TSP)	0.02	0.10
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	0.01
Volatile Organic Compounds (VOC)	0.02	0.07
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Formaldehyde	<0.01	<0.01
Benzene	<0.01	<0.01
Toluene	<0.01	<0.01
Hexane	<0.01	0.02
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	351	1,537
CH <sub>4</sub>	0.007	0.029
N <sub>2</sub> O	0.001	0.003
CO <sub>2,e</sub>	351	1,539
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- VOC, PM, PM10, PM2.5, lead, and SO2 emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-2, 7/98. It has been conservatively assumed that PM=PM10=PM2.5.</li> <li>- NOx and CO emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-1, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-3, 7/98.</li> <li>- HAP emission factors from AP-42, Section 1.4, Natural Gas Combustion, Table 1.4-4, 7/98.</li> <li>- Lb/MMBtu numbers based on 40 CFR Part 98 Tables C-1 and C-2 for natural gas</li> <li>- Global Warming Potentials = 1 for CO2, 25 for CH4, and 298 for N2O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		

***Applicable Requirements***

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

45 CSR 13 – Fire water heaters are limited to being fired with natural gas (TV 6.1.3; R13-2468, 6.1.2)

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

45 CSR 13 – Fire water heaters will be limited to being fired with natural gas (TV 6.1.3; R13-2468, 6.1.2)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> T-FW-4	<b>Emission unit name:</b> FW-4	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

Propane-fired fire water heater

<b>Manufacturer:</b> RBI	<b>Model number:</b> LB1650	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 2011	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
 1.65 MMBtu/hr

<b>Maximum Hourly Throughput:</b> 18.03 gallons/hr	<b>Maximum Annual Throughput:</b> 157,967 gallons/yr	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>If yes, is it?</b>  <input type="checkbox"/> Indirect Fired <input checked="" type="checkbox"/> Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b> 1.65 MMBtu/hr	<b>Type and Btu/hr rating of burners:</b> 1.65 MMBtu/hr
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

Propane

- Maximum daily fuel usage = 18.03 gallon/hr
- Maximum annual fuel usage = 157,967 gallons/yr

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value
Propane	1 gr sulfur/100 cf	N/A	91.5 MMBtu/gal

<b>Emissions Data</b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	0.14	0.59
Nitrogen Oxides (NO <sub>x</sub> )	0.23	1.03
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	0.01	0.06
Particulate Matter (PM <sub>10</sub> )	0.01	0.06
Total Particulate Matter (TSP)	0.01	0.06
Sulfur Dioxide (SO <sub>2</sub> )	<0.01	0.01
Volatile Organic Compounds (VOC)	0.02	0.08
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2</sub>	225	987
CH <sub>4</sub>	0.004	0.016
N <sub>2</sub> O	0.016	0.071
CO <sub>2,e</sub>	230	1,009
<p><b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b></p> <ul style="list-style-type: none"> <li>- Emission factors from AP-42, Section 1.5, Liquefied Petroleum Gas Combustion, Table 1.5-1, 7/08. It has been conservatively assumed that PM=PM10=PM2.5. Factors are converted to lb/MMBtu by dividing the lb/103 gal value by the heating value of propane (91.5 MMBtu/103).</li> <li>- Assumes a sulfur content of 1 gr/100 ft3.</li> <li>- Global Warming Potentials = 1 for CO2, 25 for CH4, and 298 for N2O (per 40 CFR Part 98 Table A-1 to Subpart A)</li> </ul>		



***Applicable Requirements***

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

45 CSR 13 – Limited to being fired with propane (TV 9.2.1)

\_\_\_\_ Permit Shield

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

45 CSR 13 – Limit to being fired with propane (TV 9.2.1)

**Are you in compliance with all applicable requirements for this emission unit?** ☒ Yes ☐ No

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

## ATTACHMENT E - Emission Unit Form

### *Emission Unit Description*

<b>Emission unit ID number:</b> V-2195 (Emission Point)	<b>Emission unit name:</b> V-2195 (Emission Point)	<b>List any control devices associated with this emission unit:</b> N/A
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**Provide a description of the emission unit (type, method of operation, design parameters, etc.):**

HECS knockout tank. The HECS knockout tank is not an emission unit, but it is the emission point for the facility.

<b>Manufacturer:</b>	<b>Model number:</b>	<b>Serial number:</b>
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<b>Construction date:</b>	<b>Installation date:</b> 2002	<b>Modification date(s):</b>
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**Design Capacity (examples: furnaces - tons/hr, tanks - gallons):**  
2,936 gallon tank

<b>Maximum Hourly Throughput:</b>	<b>Maximum Annual Throughput:</b>	<b>Maximum Operating Schedule:</b> 8,760 hrs/yr
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### *Fuel Usage Data (fill out all applicable fields)*

<b>Does this emission unit combust fuel?</b> ___ Yes <u>X</u> No	<b>If yes, is it?</b> ___ Indirect Fired    ___ Direct Fired
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<b>Maximum design heat input and/or maximum horsepower rating:</b>	<b>Type and Btu/hr rating of burners:</b>
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**List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.**

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

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

<b><i>Emissions Data</i></b>		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)	N/A	N/A
Nitrogen Oxides (NO <sub>x</sub> )	N/A	N/A
Lead (Pb)	N/A	N/A
Particulate Matter (PM <sub>2.5</sub> )	N/A	N/A
Particulate Matter (PM <sub>10</sub> )	N/A	N/A
Total Particulate Matter (TSP)	N/A	N/A
Sulfur Dioxide (SO <sub>2</sub> )	N/A	N/A
Volatile Organic Compounds (VOC)	1.03	4.49
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Hexane		0.11
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
CO <sub>2,e</sub>		3,547
<b>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</b> <ul style="list-style-type: none"> <li>- Calculations based on August 2015 R13 Permit Application.</li> <li>- Residue gas weight % composition and density from gas analysis 24641, 11/07/13, Hastings Station Fuel.</li> <li>- Inlet gas weight % composition and density from gas analysis 24658, 11/26/13, Hastings Station Inlet to Contactor.</li> </ul>		

***Applicable Requirements***

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

\_\_\_\_ Permit Shield

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

Are you in compliance with all applicable requirements for this emission unit? ☒ Yes ☐ No

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

**Attachment G**

Air Pollution Control Device Form

## ATTACHMENT G - Air Pollution Control Device Form

**Control device ID number:**  
C1

**List all emission units associated with this control device.**  
LOAD (Railcar loading only)

**Manufacturer:**  
Ariel

**Model number:**  
JGK/2-1-2

**Installation date:**  
2012

**Type of Air Pollution Control Device:**

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input checked="" type="checkbox"/> Other (describe) <input type="checkbox"/> Vapor Recovery Unit
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

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

Pollutant	Capture Efficiency	Control Efficiency
VOC		95%
Benzene		95%
Ethylbenzene		95%
n-Hexane		95%
Toluene		95%
Xylene		95%

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

Vapor recovery unit with a control efficiency of 95%. Recovers vapors from railcar loading (LOAD).

**Is this device subject to the CAM requirements of 40 C.F.R. 64?** ☐ Yes ☒ No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

The VRU is considered "inherent process equipment" as defined at 40 CFR 64.1, and therefore, the emission unit does not have a control device for purposes of CAM applicability.

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

Consent Order – Implementation of a leak detection and repair program (CO-R13-2015-13 dated June 26, 2015)

Consent Order – Initial monitoring within 60 days using Method 21 or approved alternative (e.g., FLIR camera) and monthly (audio, visual, and olfactory) monitoring thereafter (CO-R13-2015-13 dated June 26, 2015)

Consent Order – Upon detection of a leak, first attempt of repair must occur within 5 days and final repair within 15 days (CO-R13-2015-13 dated June 26, 2015)

Consent Order – Document date, duration, cause, and corrective action for periods when VRU is not operating while loading operations are occurring or during periods when vapors are vented to atmosphere (CO-R13-2015-13 dated June 26, 2015)