Received
March 18, 2025
WV DEP/Div of Air Quality

Division of Air Quality Permit Application Submittal

Please find attached a permit application for : RIDGELINE FACILITY; Tucker County, West Virginia
[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only): N/A
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only): N/A

- Type of NSR Application (check all that apply):
  - ☑ Construction
  - ☐ Modification
  - ☐ Class I Administrative Update
  - ☐ Class II Administrative Update
  - ☐ Relocation
  - ☐ Temporary
  - ☐ Permit Determination

- Type of 45CSR30 (TITLE V) Revision (if any)**:
  - ☐ Title V Initial
  - ☐ Title V Renewal
  - ☐ Administrative Update
  - ☐ Minor Modification
  - ☐ Significant Modification
  - ☐ Off Permit Change

**If any box above is checked, include the Title V revision information as ATTACHMENT S to this application.

- Payment Type:
  - ☑ Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
  - ☐ Check (Make checks payable to: WVDEP – Division of Air Quality)
    Mail checks to:
    WVDEP – DAQ – Permitting
    Attn: NSR Permitting Secretary
    601 57th Street, SE
    Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

- If the permit writer has any questions, please contact (all that apply):
  - ☑ Responsible Official/Authorized Representative
    - Name: Casey L. Chapman
    - Email: cchapman@fundamentaldata.com
    - Phone Number: (540) 338-8271
  - ☐ Company Contact
    - Name:
    - Email:
    - Phone Number:
  - ☑ Consultant
    - Name: Leah E. Blinn
    - Email: lblinn@cecinc.com
    - Phone Number: (412) 249-1607

<table>
<tr><td>Company Name</td><td>FUNDAMENTAL DATA LLC</td><td colspan="3">Responsible Official</td></tr>
<tr><td rowspan="2">Company Address</td><td rowspan="2">125 Hirst Rd. Suite 1A
Purcellville, VA 20132</td><td rowspan="6">Confidential Information Designee</td><td>Name</td><td>Casey Chapman</td></tr>
<tr><td>Title</td><td>Responsible Official</td></tr>
<tr><td rowspan="3">Person/Title Submitting Confidential Information</td><td rowspan="3">Casey Chapman
Responsible Official</td><td rowspan="2">Address</td><td>125 Hirst Rd. Suite 1A</td></tr>
<tr><td>Purcellville, VA 20132</td></tr>
<tr><td>Phone</td><td>(540) 338-8271</td></tr>
<tr><td></td><td></td><td>Fax</td><td>(540) 338-1301</td></tr>
</table>

Reason for Submittal of Confidential Information
The application contains trade secrets regarding the configuration of the proposed facility as well as technical information related to the turbines.

Permit Section	**Identification of Confidential Information**	**Rationale for Confidential Claim**	**Confidential Treatment Time Period**
Attachment E – Plot Plans	Turbines Configuration and Identification Information	The configuration of turbines is considered a trade secret.	Permanently
Attachment F – Process Flow Diagram	Turbines Configuration and Identification Information	The configuration of turbines is considered a trade secret.	Permanently
Attachment I – Emission Units Table	Turbine Identification Information	The configuration of turbines is considered a trade secret.	Permanently
Attachment J - Emission Points Data Summary Sheet	Turbine Identification and Individual Turbine Information	The configuration of turbines is considered a trade secret.	Permanently
Attachment L – Emissions Unit Data Sheet General	Turbine Identification Information	The configuration of turbines is considered a trade secret.	Permanently
Attachment M – Air Pollution Control Device Sheet	Control Device Manufacturer	The turbine control device manufacturer is considered a trade secret.	Permanently
Attachment N – Supporting Emission Calculations; Sheet 1	Individual Turbine Information	The configuration of turbines is considered a trade secret.	Permanently

Attachment N – Supporting Emission Calculations; Sheet 2	Individual Turbine Information	The configuration of turbines is considered a trade secret.	Permanently
Attachment N – Supporting Emission Calculations; Sheet 3	Individual Turbine and Operational Information	The configuration of turbines and operational plans are considered trade secrets.	Permanently
Attachment N – Supporting Emission Calculations; Sheet 4	Individual Turbine and Operational Information	The configuration of turbines and operational plans are considered trade secrets.	Permanently
Attachment N – Supporting Emission Calculations; Turbine Specification Sheets	Turbine Specification Sheets	The technical information contained in the turbine specification sheets is considered a trade secret.	Permanently

Responsible Official Signature:	[signature] Responsible Official
Responsible Official Title:	Responsible Official
Date Signed:	3-18-25

NOTE: Must be signed and dated in **BLUE INK**.

March 18, 2025

WVDEP - DAQ - Permitting
Attn: NSR Permitting Secretary
601 57th Street SE
Charleston, WV 25304

To Whom it May Concern:

Subject: 45CSR13 Permit Application
FUNDAMENTAL DATA LLC – RIDGELIE FACILITY
CEC Project 350-613

FUNDAMENTAL DATA LLC (FUNDAMENTAL) is submitting this initial R13 permit application for its RIDGELINE FACILITY located in Tucker County, West Virginia.

The following NSR Application Forms and required supplemental documents in accordance with the instructions for NSR permit application forms are enclosed as follows:

- Application for NSR Permit
- Attachment A – Business Registration
- Attachment B – Facility Location Map
- Attachment C – Installation and Start-Up Schedule
- Attachment D – Regulatory Discussion
- Attachment E – Plot Plan
- Attachment F – Process Flow Diagram
- Attachment G – Process Description
- Attachment I – Emission Units Table
- Attachment J – Emission Points Data Summary Sheet
- Attachment K – Fugitive Emissions Data Summary Sheet
- Attachment L – Emissions Unit Data Sheet(s)
- Attachment M – Air Pollution Control Device Sheet(s)
- Attachment N – Supporting Emissions Calculations
- Attachment O – Monitoring/Recordkeeping/Reporting/Testing Plans
- Attachment P – Public Notice
- Attachment Q – Business Confidential Claims

Please contact Leah Blinn at (412) 249-1607 or Casey Chapman at (540) 454-7775 if you have any questions regarding the application.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Casey N. Spiker
Project Manager

Leah E. Blinn
Vice President

Enclosures

APPLICATION FOR 45CSR13

RIDGELINE FACILITY
TUCKER COUNTY, WEST VIRGINIA

Submitted to:

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57TH STREET, SE
CHARLESTON, WV 25304

Prepared For:

FUNDAMENTAL DATA LLC
125 HIRST RD. SUITE 1A
PURCELLVILLE, VA 20132

Prepared By:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
PITTSBURGH, PENNSYLVANIA

CEC Project 350-613

MARCH 2025

45CSR13 PERMIT APPLICATION

RIDGELINE FACILITY
TUCKER COUNTY, WEST VIRGINIA

TABLE OF CONTENTS

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

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

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

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

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

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

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

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

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

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
FUNDAMENTAL DATA LLC

2. Federal Employer ID No. ***(FEIN):***
99-2595953

3. Name of facility *(if different from above):*
RIDGELINE FACILITY

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

5A. Applicant's mailing address:
125 Hirst Rd. Suite 1A
Purcellville, VA 20132

5B. Facility's present physical address:
Off of US-48, near the City of Thomas, in Tucker County, West Virginia.

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

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

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: N/A

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

- If **YES,** please explain: FUNDAMENTAL DATA LLC has an executed Purchase and Sale Agreement signed by both the Seller and Purchaser on July 19, 2024. Under this agreement, FUNDAMENTAL DATA LLC has control of the proposed site.
- If **NO,** you are not eligible for a permit for this source.

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

10. North American Industry Classification System **(NAICS)** code for the facility:
221112

11A. DAQ Plant ID No. (for existing facilities only):
–

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
N/A

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

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

An access road to the facility will be located off of US-48, approximately 0.5 miles east of the City of Thomas. If traveling from the City of Thomas, the access road will be on the left.

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
N/A	Thomas	Tucker
12.E. UTM Northing (KM): 4334.94618	12F. UTM Easting (KM): 632.51221	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
N/A

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

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

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day 24 Days Per Week 7 Weeks Per Year 52

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

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

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

Section II. Additional attachments and supporting documents.

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ General Emission Unit, specify: Turbines

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

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

☐ Absorption Systems	☐ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☒ Other Collectors, specify: SCR and CO Catalyst Systems

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

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

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

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

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

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☒ **YES** ☐ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

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

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

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

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

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

Certification of Truth, Accuracy, and Completeness

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

Compliance Certification

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

SIGNATURE _____ *(Please use blue ink)* DATE: 3-18-25 *(Please use blue ink)*

35B. Printed name of signee: Casey L. Chapman		35C. Title: Responsible Official
35D. E-mail: cchapman@fundamentaldata.com	36E. Phone: (540) 338-8271	36F. FAX: (540) 338-1301
36A. Printed name of contact person (if different from above): Same as above		36B. Title:
36C. E-mail:	36D. Phone:	36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

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

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

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

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

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

ATTACHMENT A

BUSINESS CERTIFICATE

State of West Virginia

Certificate

I, Kris Warner, Secretary of State of the State of West Virginia, hereby certify that

FUNDAMENTAL DATA LLC

was duly authorized under the laws of this state to transact business in West Virginia as a foreign limited liability company on July 16, 2024.

The company is filed as an at-will company, for an indefinite period.

I further certify that the company has not been revoked or administratively dissolved by the State of West Virginia nor has the West Virginia Secretary of State issued a Certificate of Cancellation or Termination to the company.

Accordingly, I hereby issue this Certificate of Authorization

CERTIFICATE OF AUTHORIZATION

Validation ID:6WV6B_T54PD

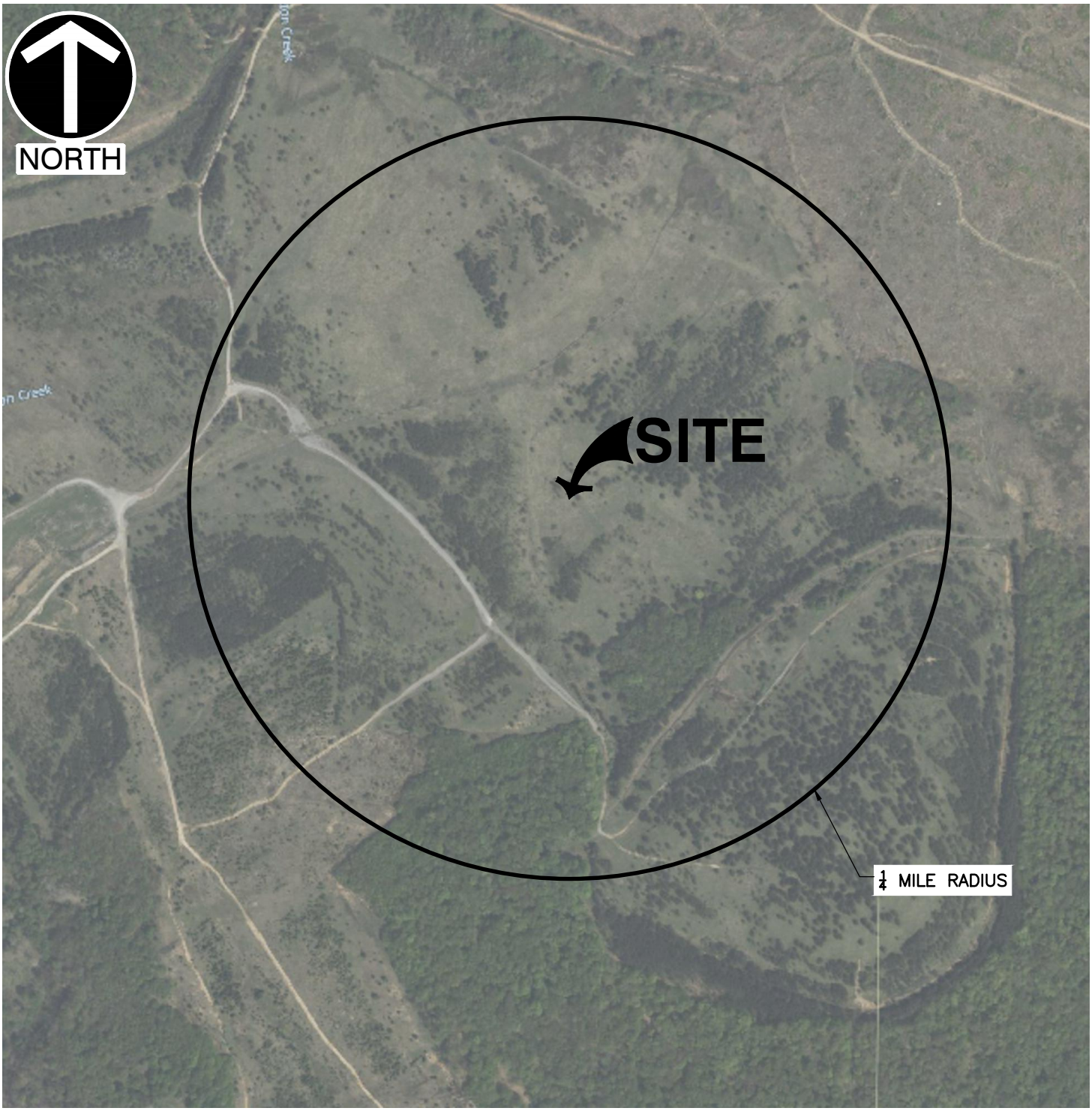
Given under my hand and the Great Seal of the State of West Virginia on this day of

February 24, 2025

Secretary of State

ATTACHMENT B

FACILITY LOCATION MAP



REFERENCE

AERIAL TAKEN FROM MICROSOFT CORPORATION, 2025 MAXAR, DATED: 2025.

SCALE IN FEET

0 500 1000

*HAND SIGNATURE ON FILE

Civil & Environmental Consultants, Inc.

700 Cherrington Parkway
Moon Township, PA 15108

Ph: 412.429.2324 · 800.365.2324

www.cecinc.com

FUNDAMENTAL DATA LLC
RIDGELINE FACILITY
TUCKER COUNTY, WEST VIRGINIA

FACILITY LOCATION MAP

DRAWN BY:	DWP	CHECKED BY:	CNS	APPROVED BY:	LEB*	ATTACHMENT:
DATE:	02/27/2025	DWG SCALE:	AS NOTED	PROJECT NO:	350-613.0001	B-1

P:\350-000\350-613\-CADD\Dwg\AQ01\350613-AQ01-AREA MAP-b-1.dwg{B-1} LS:(3/10/2025 - tframpton) - LP: 3/14/2025 8:45 AM

REFERENCE

AERIAL TAKEN FROM MICROSOFT CORPORATION, 2025 MAXAR, DATED: 2025.

SCALE IN FEET

0 2000 4000

*HAND SIGNATURE ON FILE

Civil & Environmental Consultants, Inc.

700 Cherrington Parkway
Moon Township, PA 15108

Ph: 412.429.2324 · 800.365.2324

www.cecinc.com

FUNDAMENTAL DATA LLC
RIDGELINE FACILITY
TUCKER COUNTY, WEST VIRGINIA

FACILITY LOCATION MAP

DRAWN BY:	DWP	CHECKED BY:	CNS	APPROVED BY:	LEB*	ATTACHMENT:
DATE:	02/27/2025	DWG SCALE:	AS NOTED	PROJECT NO:	350-613.0001	B-2

P:\350-000\350-613\-CADD\Dwg\AQ01\350613-AQ01-AREA MAP-B-2.dwg{B-2} LS:(3/10/2025 - ttrampton) - LP: 3/14/2025 8:47 AM

ATTACHMENT C

INSTALLATION AND START-UP SCHEDULE

RIDGELINE FACILITY
Attachment C – Installation and Start-Up Schedule

The sources described in this application will be installed at the facility and start-up will occur as soon as possible. However, the schedule is entirely dependent on the availability of equipment from the manufacturers. It is anticipated that the entire facility may begin operating in 2027 or 2028, but this is subject to change.

ATTACHMENT D

REGULATORY DISCUSSION

RIDGELINE FACILITY
Attachment D – Regulatory Discussion

The regulatory discussion reviews the federal and West Virginia regulations potentially applicable to the proposed RIDGELINE FACILITY in Tucker County, West Viriginia, owned and operated by FUNDAMENTAL DATA LLC (FUNDAMENTAL).

Federal Regulations

40 CFR 52.21 – Prevention of Significant Deterioration (PSD) (not applicable)

Federal construction permitting programs regulate new and modified sources of attainment pollutants under PSD and new and modified sources of non-attainment pollutants under Non-Attainment New Source Review. Tucker County, West Viriginia is designated as attainment/unclassifiable for all criteria pollutants. PSD regulations apply when a new source is constructed in which emissions exceed major source thresholds, an existing minor source undergoes modification in which emission increases exceed PSD major source thresholds, or an existing major source undergoes a modification in which emission increases exceed PSD significant emission rates. PSD major source thresholds are 250 tons per year of a regulated pollutant, except for the 28 regulated facility categories. FUNDAMENTAL will accept operating limitations on the proposed RIDGELINE FACILITY to be a synthetic minor source with respect to PSD.

40 CFR 60 Subpart Kc – Standards of Performance for Volatile Organic Liquid Storage Vessels (not applicable)

Subpart Kc applies to storage vessels of volatile organic liquids with capacities greater than or equal to 20,000 gallons for which construction commenced after October 4, 2023. § 60.110c(b)(8) exempts storage vessels that only store volatile organic liquids with a maximum true vapor pressure less than 0.25 psia (1.7 kPa absolute). Diesel fuel has a maximum true vapor pressure of less than 0.25 psia; therefore, Subpart Kc is not applicable.

40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines (not applicable)

Subpart GG applies to stationary gas turbines with a heat input at peak load of 10 million Btu (MMBtu) per hour or more based on the lower heating value of the fuel fired. Because the turbines at RIDGELINE FACILITY are subject to the requirements of 40 CFR 60 Subpart KKKK, they are exempt from the requirements of Subpart GG.

40 CFR 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines (applicable)

Subpart KKKK applies to stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBtu per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. The turbines at RIDGELINE FACILITY are rated at greater than 10 MMBtu per hour; therefore, Subpart KKKK is applicable. Subpart KKKK regulates emissions of nitrogen oxides (NOx) and sulfur dioxide (SO_2). The NOx emission limit for a new turbine firing natural gas with a heat input between 50 MMBtu per hour and 850 MMBtu per hour is 25 ppm at 15 percent O_2 or 1.2 lb/MWh of useful output. The NOx emissions limit for a new turbine firing fuels other than natural gas with a heat input between 50 MMBtu per hour and 850 MMBtu per hour is 74 ppm at 15

percent O_2 or 3.6 lb/MWh of useful output. SO_2 emissions are limited to either 0.90 lb/MWh gross output, or 0.060 lb/MMBtu heat input.

40 CFR 60 Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units and 40 CFR 60 Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Because the turbines at RIDGELINE FACILITY are subject to the requirements of 40 CFR 60 Subpart KKKK, they are exempt from the requirements of Subparts Db or Dc.

40 CFR 60 Subpart TTTTa – Standards of Performance for Greenhouse Gas Emissions for Modified Coal-Fired Steam Electric Generating Units and New Construction and Reconstruction Stationary Combustion Turbine Electric Generating Units (not applicable)

Subpart TTTTa applies to stationary combustion turbines that commence construction after May 23, 2023, that also serve a generator or generators capable of selling greater than 25 MW of electricity to a utility power distribution system. The RIDGELINE FACILITY will not sell electricity to the grid; therefore, Subpart TTTTa is not applicable.

40 CFR 63 Subpart EEEE - National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline) (not applicable)

Subpart EEEE applies to organic liquids storage and distribution at major sources of HAPs. The facility is not a major source of HAPs because its potential to emit total HAPs is less than 25 tons per year and its potential to emit any single HAP is less than 10 tons per year. Therefore, Subpart EEEE is not applicable.

40 CFR 63 Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines (not applicable)

Subpart YYYY applies to stationary combustion turbines at major sources of HAPs. The facility is not a major source of HAPs; therefore, Subpart YYYY is not applicable.

40 CFR 64 – Compliance Assurance Monitoring (not applicable)

Compliance Assurance Monitoring (CAM) applies to pollutant-specific emissions units at a major source under 40 CFR 70. The facility is not a major source under 40 CFR 70; therefore, CAM is not applicable.

40 CFR 70 – Title V Operating Permit Program (not applicable)

Part 70 establishes the Title V Operating Permit Program. The Title V Operating Permit Program has also been incorporated in the West Virginia Code of State Regulations (CSR) 45-30. Under the West Virginia Title V Operating Permit Program, the major source thresholds are 10 tons per year of a single HAP, 25 tons per year of any combination of HAPs, and 100 tons per year for all other regulated pollutants. FUNDAMENTAL will accept operating limitations on the proposed RIDGELINE FACILITY to be a synthetic minor source with respect to the Title V Operating Permit Program.

State Regulations

45 CSR 2: To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers (not applicable)

45 CSR 2 applies to fuel burning units, defined as equipment burning fuel "for the primary purpose of producing heat or power by indirect heat transfer". The combustion turbines are equipped with HRSG units which generate steam by using the heat present in the turbine exhaust gas. However, the turbines are not fuel burning units because this operation is not their primary purpose.

45 CSR 4: To Prevent and Control the Discharge of Air Pollutants into the Open Air which Causes or Contributes to an Objectionable Odor or Odors (applicable)

According to 45 CSR 4-3: "No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public." The facility is generally subject to this requirement.

45 CSR 10: To Prevent and Control Air Pollution from the Emission of Sulfur Oxides (not applicable)

45 CSR 10 establishes emissions standards for sulfur oxides from fuel burning units. The combustion units are not fuel burning units because their primary purpose is not to produce power through indirect heat transfer.

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

FUNDAMENTAL is applying for a Permit to Construct and Operate a new stationary source which is not a major stationary source.

45 CSR 14: Permits for Construction and Major Modification of Major Stationary Sources for the Prevention of Significant Deterioration of Air Quality (not applicable)

45 CSR 14 applies to the construction of any new major stationary source or any proposed project at an existing major stationary source in an area designated as attainment or unclassifiable. The potential emissions from the facility will not exceed PSD major source thresholds for any regulated pollutant.

45 CSR 16: Standards of Performance for New Stationary Sources (applicable)

45 CSR 16-1 incorporates the federal Clean Air Act (CAA) standards of performance for new stationary sources set forth in 40 CSR Part 60 by reference. As such, by complying with all applicable requirements of 40 CFR Part 60 at the RIDGELINE FACILITY, FUNDAMENTAL will be complying with 45 CSR 16.

45 CSR 17: To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter (applicable)

According to 45 CSR 17-3.1: "No person shall cause, suffer, allow or permit fugitive particulate matter to be discharged beyond the boundary lines of the property lines of the property on which the discharge originates or at any public or residential location, which causes or contributes to statutory air pollution."

FUNDAMENTAL will take measures to ensure that any fugitive particulate matter emissions will not cross the property boundary should any emissions occur.

45 CSR 21: Regulation to Prevent and ControlAir Pollution from the Emission of Volatile Organic Compounds (VOC) (not applicable)

45 CSR 21 applies to VOC emissions from facilities located in Putnam County, Kanawha County, Cabell County, Wayne County, and Wood County. The RIDGELINE FACILITY is not located in a listed county. Therefore, 45 CSR 21 does not apply.

45 CSR 34: Emissions Standards for Hazardous Air Pollutants (not applicable)

45 CSR 34-1 incorporates the federal Clean Air Act (CAA) national emissions standards for hazardous air pollutants (NESHAPs) as set forth in 40 CFR Parts 61 and 63 by reference. As such, by complying with all applicable requirements of 40 CFR Parts 61 and 63 at RIDGELINE FACILITY, FUNDAMENTAL will be complying with 45 CSR 34. No requirements of 40 CFR Parts 61 and 63 are applicable to the facility.

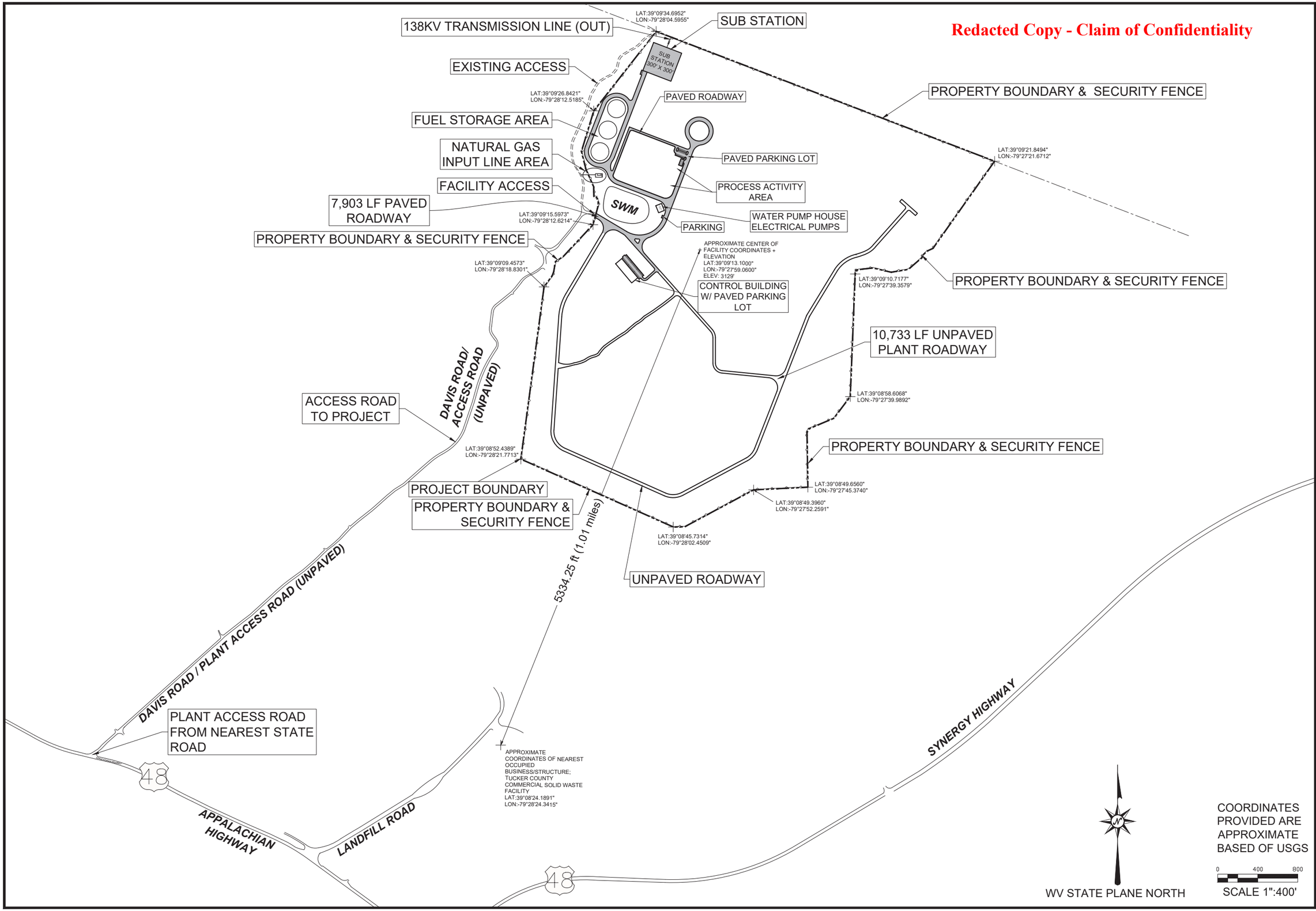
45 CSR 40: Control of Ozone Season Nitrogen Oxides Emissions (applicable)

45 CSR 40 applies to combustion turbines with a maximum design heat input of 250 MMBtu per hour or greater. Ozone season is defined as May 1 through September 30 in the same calendar year. The combustion turbines will be subject to an ozone season NOx limitation, and will have monitoring, recordkeeping, and reporting requirements to demonstrate compliance.

ATTACHMENT E

PLOT PLAN

Redacted Copy - Claim of Confidentiality



PLOT PLAN

RIDGELINE FACILITY

Tucker County, Virginia

Prepared for:
FUNDAMENTAL DATA, LLC
125 HIRST ROAD, STE 1A
PURCELLVILLE, VA 20132

FUNDAMENTAL DATA

RIDGELINE

No.	REVISIONS	Date
1	ORIGINAL	02-14-25
2	REVISION 1	03-10-25
3	REVISION 2	03-17-25
4		
5		
6		
7		
8		
9		
10		

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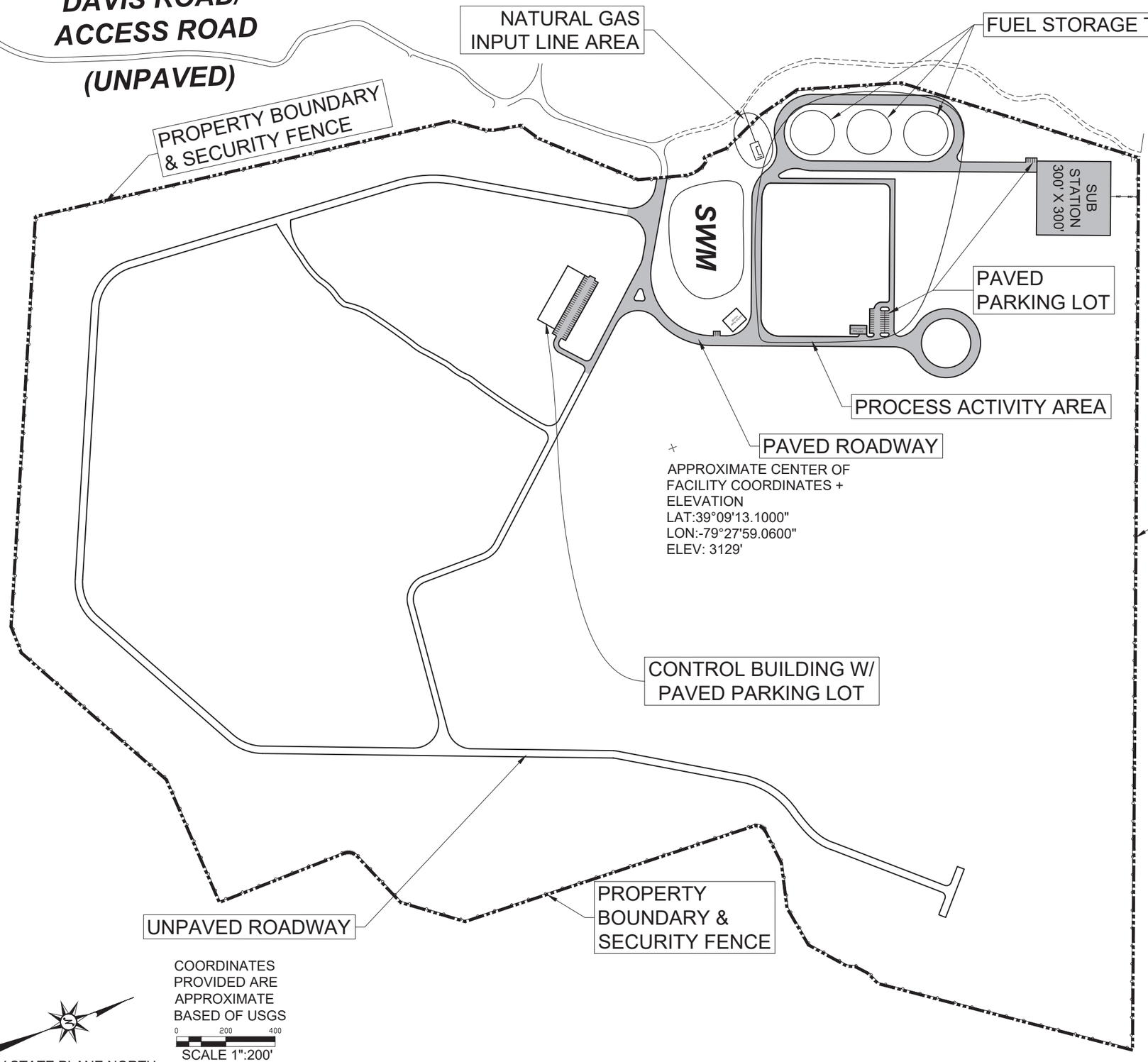
Drawn: HMP
Checked: MN
Job #:
Scale: 1" = 400'

Sheet: 1 of 3

Redacted Copy - Claim of Confidentiality



PLOT PLAN
RIDGELINE FACILITY
Tucker County, Virginia

Prepared for:
FUNDAMENTAL DATA, LLC
125 HIRST ROAD, STE 1A
PURCELLVILLE, VA 20132

FUNDAMENTAL DATA

RIDGELINE

No.	REVISIONS	Date
1	ORIGINAL	02-14-25
2	REVISION 1	03-10-25
3	REVISION 2	03-17-25
4		
5		
6		
7		
8		
9		
10		

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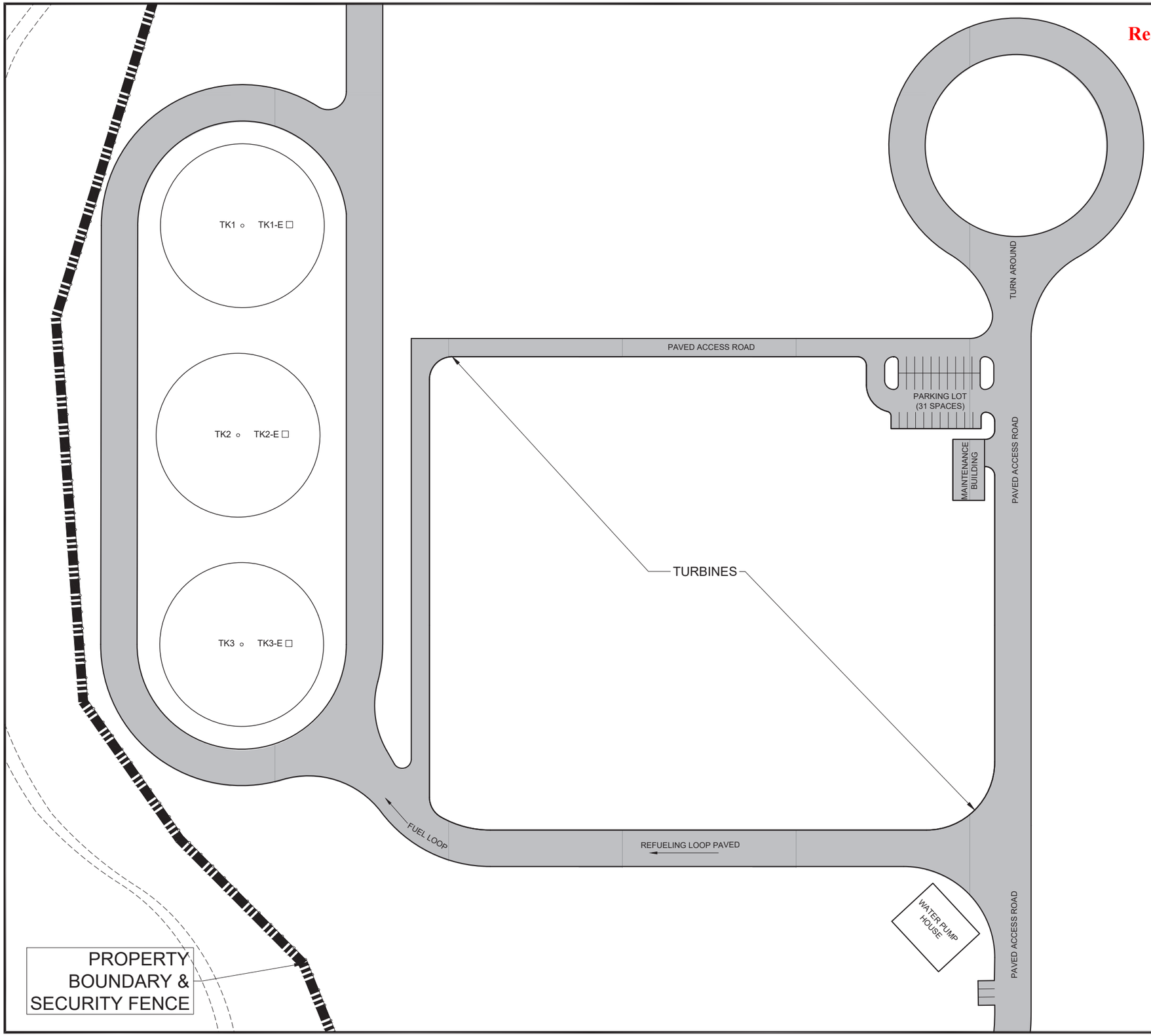
Drawn: HMP
Checked: MN
Job #:
Scale: 1" = 200'
Sheet: 2 of 3

Redacted Copy - Claim of Confidentiality



COORDINATES
PROVIDED ARE
APPROXIMATE
BASED OF USGS

0 50 100

SCALE 1":50'

WV STATE PLANE NORTH

PLOT PLAN

RIDGELINE FACILITY

Tucker County, Virginia

Prepared for:
FUNDAMENTAL DATA, LLC
125 HIRST ROAD, STE 1A
PURCELLVILLE, VA 20132

FUNDAMENTAL DATA

RIDGELINE

No.	REVISIONS	Date
1	ORIGINAL	02-14-25
2	REVISION 1	03-10-25
3	REVISION 2	03-17-25
4		
5		
6		
7		
8		
9		
10		

Design: MN
Drawn: HMP
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Job #:

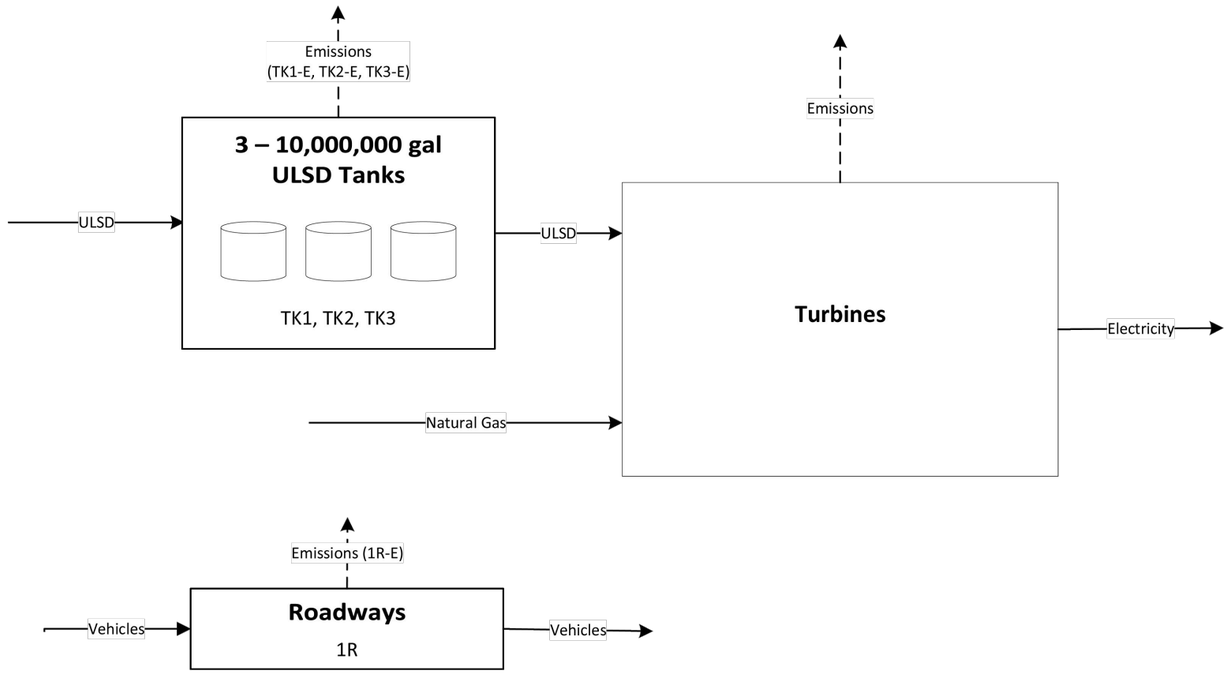
Scale: 1" = 50'

Sheet: 3 of 3

ATTACHMENT F

PROCESS FLOW DIAGRAM

Redacted Copy - Claim of Confidentiality



*HAND SIGNATURE ON FILE

Civil & Environmental Consultants, Inc.	700 Cherrington Parkway Moon Township, PA 15108 Ph: 412.429.2324 · 800.365.2324 www.cecinc.com	FUNDAMENTAL DATA LLC RIDGELINE FACILITY TUCKER COUNTY, WEST VIRGINIA	
		PROCESS FLOW DIAGRAM	
DRAWN BY: TAF	CHECKED BY: CNS	APPROVED BY: LEB*	ATTACHMENT: F
DATE: 03/18/2025	DWG SCALE: NTS	PROJECT NO: 350-613.0001	

P:\350-000\350-613\-CADD\Dwg\AQ01\350613-AQ01-FLOW DIAGRAM.dwg[F (2)] LS:(3/14/2025 – tframpton) – LP: 3/18/2025 8:47 AM

ATTACHMENT G

PROCESS DESCRIPTION

RIDGELINE FACILITY
Attachment G - Process Description

FUNDAMENTAL DATA LLC (FUNDAMENTAL) is constructing the RIDGELINE FACILITY in Tucker County, West Virginia. The station will be powered via turbines equipped with heat recovery steam generators. The turbines will be equipped with SCR and CO Catalyst systems to reduce NO_X and CO emissions. The turbines will primarily use natural gas as fuel. However, they may be required to use diesel as a backup fuel source when necessary, such as during a natural gas pipeline failure. It is the intention of FUNDAMENTAL to operate the turbines solely on natural gas. In order to avoid designation as a Title V facility, the facility will restrict turbine operations as discussed below.

If operating solely with natural gas, without any operational restrictions, the facility would exceed the major source threshold for NO_X, PM, PM_{10}, and $PM_{2.5}$ based on the Potential-to-Emit (PTE) calculations included as Attachment N to this application. For natural gas operations, which is the intended operating scenario, the total hours of turbine operations would be restricted to 61,320 hours per year. This limitation also includes an assumed amount of turbine startups and shutdowns.

If operating solely with diesel fuel, without any operational restrictions, the facility would exceed the major source threshold for NO_X, PM, and Manganese based on the Potential-to-Emit (PTE) calculations included as Attachment N to this application. For diesel operations, the total hours of turbine operations would be restricted to 25,000 hours per year to avoid exceeding any major source thresholds. This limitation also includes an assumed amount of turbine startups and shutdowns.

FUNDAMENTAL is proposing to be permitted as a synthetic minor facility. FUNDAMENTAL will restrict total turbine operations to 61,320 hours per year for natural gas operations. Total turbine hours for diesel operations will be restricted to 25,000 hours per year. FUNDAMENTAL may operate using any combination of natural gas and diesel such that they restrict the total hours of operation as needed to remain under all major source thresholds. FUNDAMENTAL will keep records of the total hours of operation for each turbine including the total amount of hours each turbine uses natural gas as a fuel and the total amount of hours each turbine uses diesel as a fuel. FUNDAMENTAL will keep rolling 12-month emission calculations to ensure their emissions remain below any major source thresholds.

Additional sources at the facility will include a paved roadway and three (3), 10,000,000-gallon diesel storage tanks. These sources are included in this application. The facility will also have storage tanks for well water. These are not expected to emit any regulated air pollutants and are therefore not included as sources in this application due to being de minimis sources under 45CSR13, Table 45-13 B, Item 50. A diesel fire pump may be installed as part of the facility's fire suppression system. This system is not included in this application since fire suppression systems are considered to be de minimis sources under 45CSR13, Table 45-13 B, Item 27. The facility may also have an unpaved roadway, but this will not regularly be utilized for hauling activities, so it is not considered in the remainder of this application.

ATTACHMENT I

EMISSION UNITS TABLE

Attachment I

Emission Units Table

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

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
		Combustion Turbines	TBD	5650 MMBtu/hr	New	
TK1	TK1-E	Diesel Tank	TBD	12.6 MMgal	New	N/A
TK2	TK2-E	Diesel Tank	TBD	12.6 MMgal	New	N/A
TK3	TK3-E	Diesel Tank	TBD	12.6 MMgal	New	N/A
1R	1R-E	Paved Roadways	TBD	N/A	New	N/A

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

ATTACHMENT J

EMISSION POINTS DATA SUMMARY SHEET

Redacted Copy - Claim of Confidentiality

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions[4] With Annual Hourly Restrictions		Maximum Potential Controlled Emissions[5] With Annual Hourly Restrictions		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used[6]	Emission Concentration[7] (ppmv or mg/m^3)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
[redacted]	TBD	[redacted]	Turbines	[redacted]	SCR and CO Catalyst Systems	N/A	N/A	NOx (normal operation)	744.90	945.55	74.50	94.43	Gas/Vapor	O – AP42/ Vendor Data	N/A
								CO (normal operation)	62.60	191.93	6.30	19.32			N/A
								VOC	30.90	43.84	30.90	43.84			N/A
								SO2	19.21	58.89	19.21	58.89			N/A
								PM	44.20	95.35	44.20	95.35			N/A
								PM10	23.30	71.44	23.30	71.44			N/A
								PM2.5	23.30	71.44	23.30	71.44			N/A
								Total HAPs	5.64	9.33	5.64	9.33			N/A
								HCHO	1.26	3.86	1.26	3.86			N/A
								Lead	0.06	0.08	0.06	0.08			N/A
								CO2e	744,913	2,051,684	744,913	2,051,684			N/A

Table 1: Emissions Data Continued

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^3)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
TK1-E	TBD	TK1	Diesel Tank	N/A	N/A	N/A	N/A	VOC	0.01	0.03	0.01	0.03	Gas/Vapor	O – TANKS 5.1	N/A
								Total HAPs	0.01	0.03	0.01	0.03			
TK2-E	TBD	TK2	Diesel Tank	N/A	N/A	N/A	N/A	VOC	0.01	0.03	0.01	0.03	Gas/Vapor	O – TANKS 5.1	N/A
								Total HAPs	0.01	0.03	0.01	0.03			
TK3-E	TBD	TK3	Diesel Tank	N/A	N/A	N/A	N/A	VOC	0.01	0.03	0.01	0.03	Gas/Vapor	O – TANKS 5.1	N/A
								Total HAPs	0.01	0.03	0.01	0.03			

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

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

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

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

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

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

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

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric)

use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data

Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
[redacted]	TBD	~1,000 - 1,100	Approx. 11,000,000 (total for all turbines)	TBD	3,129 (facility center)	TBD	TBD	TBD
TK1-E	TBD	Ambient	TBD	TBD	3,129 (facility center)	TBD	TBD	TBD
TK2-E	TBD	Ambient	TBD	TBD	3,129 (facility center)	TBD	TBD	TBD
TK3-E	TBD	Ambient	TBD	TBD	3,129 (facility center)	TBD	TBD	TBD

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

ATTACHMENT K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

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

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	PM	0.48	2.11	0.48	2.11	EE/O – AP42
	PM10	0.10	0.42	0.10	0.42	
	PM2.5	0.02	0.10	0.02	0.10	
Unpaved Haul Roads	N/A	N/A	N/A	N/A	N/A	N/A
Storage Pile Emissions	N/A	N/A	N/A	N/A	N/A	N/A
Loading/Unloading Operations	N/A	N/A	N/A	N/A	N/A	N/A
Wastewater Treatment Evaporation & Operations	N/A	N/A	N/A	N/A	N/A	N/A
Equipment Leaks	Fugitive emissions from component leaks are possible but would consist mostly of natural gas which contains an insignificant amount of regulated pollutants.	Does not apply	N/A	Does not apply	N/A	N/A
General Clean-up VOC Emissions	N/A	N/A	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A	N/A	N/A

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

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

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

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

ATTACHMENT L

EMISSIONS UNIT DATA SHEET(S)

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

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

Identification Number (as assigned on *Equipment List Form*): [redacted]

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

   Combustion Turbines

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

   Please see process description (Attachment G) and plot plan (Attachment E)

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

   N/A

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

   N/A

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

   Emissions are generated via combustion.

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

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:
Fuel usage is representative of total for all units.

Maximum natural gas fuel input - 32,806 MMSCF/year
Maximum ULSD fuel input - 583.5 MMlb/year

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

Natural gas – negligible sulfur and ash content
ULSD – maximum 15 ppm sulfur; negligible ash content

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

TBD @ °F and psia.

(d) Percent excess air: TBD

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

N/A

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

N/A

(g) Proposed maximum design heat input: 5650 (total for all units) $\times 10^6$ BTU/hr.

7. Projected operating schedule:

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

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Emissions are representative of total for all units.

@ 0 °F and 13.120 psia

a.	NO_X (for normal operation)	744.90	lb/hr	N/A	grains/ACF
b.	SO_2	19.21	lb/hr	N/A	grains/ACF
c.	CO (for normal operation)	62.60	lb/hr	N/A	grains/ACF
d.	PM_{10}	23.30	lb/hr	N/A	grains/ACF
e.	Hydrocarbons	62.89	lb/hr	N/A	grains/ACF
f.	VOCs	30.90	lb/hr	N/A	grains/ACF
g.	Pb	0.06	lb/hr	N/A	grains/ACF
h.	Specify other(s)				
	Please see attached emission calculations for additional pollutants.		lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

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

(2) Complete the Emission Points Data Sheet.

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

MONITORING	RECORDKEEPING
Please see Attachment O	Please see Attachment O
REPORTING	**TESTING**
Please see Attachment O	Please see Attachment O

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

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

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

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

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

TBD

Attachment L
EMISSIONS UNIT DATA SHEET
STORAGE TANKS

Provide the following information for each new or modified bulk liquid storage tank as shown on the *Equipment List Form* and other parts of this application. A tank is considered modified if the material to be stored in the tank is different from the existing stored liquid.

IF USING US EPA'S TANKS EMISSION ESTIMATION PROGRAM (AVAILABLE AT **www.epa.gov/tnn/tanks.html**), APPLICANT MAY ATTACH THE SUMMARY SHEETS IN LIEU OF COMPLETING SECTIONS III, IV, & V OF THIS FORM. HOWEVER, SECTIONS I, II, AND VI OF THIS FORM MUST BE COMPLETED. US EPA'S AP-42, SECTION 7.1, "ORGANIC LIQUID STORAGE TANKS," MAY ALSO BE USED TO ESTIMATE VOC AND HAP EMISSIONS (**http://www.epa.gov/tnn/chief/**).

I. GENERAL INFORMATION (required)

1. Bulk Storage Area Name RIDGELINE FACILITY	2. Tank Name Diesel Tanks
3. Tank Equipment Identification No. (as assigned on *Equipment List Form*) TK1, TK2, TK3	4. Emission Point Identification No. (as assigned on *Equipment List Form*) TK1-E, TK2-E, TK3-E
5. Date of Commencement of Construction (for existing tanks) N/A	
6. Type of change ☒ New Construction ☐ New Stored Material ☐ Other Tank Modification	
7. Description of Tank Modification (if applicable) N/A	
7A. Does the tank have more than one mode of operation? (e.g. Is there more than one product stored in the tank?) ☐ Yes ☒ No	
7B. If YES, explain and identify which mode is covered by this application (Note: A separate form must be completed for each mode). N/A	
7C. Provide any limitations on source operation affecting emissions, any work practice standards (e.g. production variation, etc.): N/A	

II. TANK INFORMATION (required)

8. Design Capacity (specify barrels or gallons). Use the internal cross-sectional area multiplied by internal height. Approx. 12.6 MMgal	
9A. Tank Internal Diameter (ft) 180	9B. Tank Internal Height (or Length) (ft) 66
10A. Maximum Liquid Height (ft) Assume 90% fill. Approx. 162 ft	10B. Average Liquid Height (ft) TBD
11A. Maximum Vapor Space Height (ft) N/A	11B. Average Vapor Space Height (ft) N/A
12. Nominal Capacity (specify barrels or gallons). This is also known as "working volume" and considers design liquid levels and overflow valve heights. 10,000,000 gallons	

13A. Maximum annual throughput (gal/yr) 15,000,000 gallons, total for all tanks	13B. Maximum daily throughput (gal/day) TBD

14. Number of Turnovers per year (annual net throughput/maximum tank liquid volume) 0.5

15. Maximum tank fill rate (gal/min) TBD

16. Tank fill method TBD ☐ Submerged ☐ Splash ☐ Bottom Loading

17. Complete 17A and 17B for Variable Vapor Space Tank Systems ☒ Does Not Apply

17A. Volume Expansion Capacity of System (gal) N/A	17B. Number of transfers into system per year N/A

18. Type of tank (check all that apply):
- ☐ Fixed Roof ___ vertical ___ horizontal ___ flat roof ___ cone roof ___ dome roof ___ other (describe)
- ☐ External Floating Roof ___ pontoon roof ___ double deck roof
- ☐ Domed External (or Covered) Floating Roof
- ☒ Internal Floating Roof X vertical column support ___ self-supporting
- ☐ Variable Vapor Space ___ lifter roof ___ diaphragm
- ☐ Pressurized ___ spherical ___ cylindrical
- ☐ Underground
- ☐ Other (describe)

III. TANK CONSTRUCTION & OPERATION INFORMATION (optional if providing TANKS Summary Sheets)

19. Tank Shell Construction:
☐ Riveted ☐ Gunite lined ☐ Epoxy-coated rivets ☒ Other (describe) Welded

20A. Shell Color White	20B. Roof Color White	20C. Year Last Painted TBD

21. Shell Condition (if metal and unlined): Tanks will be new, but light rust conditions were used for calculations.
☒ No Rust ☒ Light Rust ☐ Dense Rust ☐ Not applicable

22A. Is the tank heated? ☒ YES ☐ NO Heating will only be used to prevent freezing.

22B. If YES, provide the operating temperature (°F) Tanks will be ambient unless freeze protection is needed.

22C. If YES, please describe how heat is provided to tank. Internal steam coils on bottom of tank.

23. Operating Pressure Range (psig): to Tanks will be kept at ambient pressure.

24. Complete the following section for **Vertical Fixed Roof Tanks** ☒ Does Not Apply

24A. For dome roof, provide roof radius (ft) N/A

24B. For cone roof, provide slope (ft/ft) N/A

25. Complete the following section for **Floating Roof Tanks** ☐ Does Not Apply

25A. Year Internal Floaters Installed: TBD

25B. Primary Seal Type: (check one)
☒ Metallic (Mechanical) Shoe Seal ☐ Liquid Mounted Resilient Seal
☐ Vapor Mounted Resilient Seal ☐ Other (describe):

25C. Is the Floating Roof equipped with a Secondary Seal? ☒ YES ☐ NO

25D. If YES, how is the secondary seal mounted? (check one) ☐ Shoe ☒ Rim ☐ Other (describe):

25E. Is the Floating Roof equipped with a weather shield? TBD ☐ YES ☐ NO

25F. Describe deck fittings; indicate the number of each type of fitting:

ACCESS HATCH

BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
	1	

AUTOMATIC GAUGE FLOAT WELL

BOLT COVER, GASKETED:	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:
1		

COLUMN WELL

BUILT-UP COLUMN – SLIDING COVER, GASKETED:	BUILT-UP COLUMN – SLIDING COVER, UNGASKETED:	PIPE COLUMN – FLEXIBLE FABRIC SLEEVE SEAL:
		72 Round Pipe, Gasketed Sliding Cover

LADDER WELL

PIP COLUMN – SLIDING COVER, GASKETED:	PIPE COLUMN – SLIDING COVER, UNGASKETED:
1	

GAUGE-HATCH/SAMPLE PORT

SLIDING COVER, GASKETED:	SLIDING COVER, UNGASKETED:
1 – Weighted Mechanical Actuation, Gasketed	

ROOF LEG OR HANGER WELL

WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:	SAMPLE WELL-SLIT FABRIC SEAL (10% OPEN AREA)

VACUUM BREAKER

WEIGHTED MECHANICAL ACTUATION, GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:

RIM VENT

WEIGHTED MECHANICAL ACTUATION GASKETED:	WEIGHTED MECHANICAL ACTUATION, UNGASKETED:
19 – open rim vents. Weighted mechanical actuation, gasketed type assumed for calculations.	

DECK DRAIN (3-INCH DIAMETER)

OPEN:	90% CLOSED:

STUB DRAIN

1-INCH DIAMETER:

OTHER (DESCRIBE, ATTACH ADDITIONAL PAGES IF NECESSARY)

1 – Slotted guidepole and well; gasketed sliding cover with pole sleeve
1 – Center deck leg; adjustable, internal floating roof
1 – Ladder-slotted guidepole combination well; ladder sleeve, gasketed sliding cover

26. Complete the following section for Internal Floating Roof Tanks ☐ Does Not Apply	
26A. Deck Type: ☐ Bolted ☒ Welded	
26B. For Bolted decks, provide deck construction: N/A	
26C. Deck seam: TBD ☐ Continuous sheet construction 5 feet wide ☐ Continuous sheet construction 6 feet wide ☐ Continuous sheet construction 7 feet wide ☐ Continuous sheet construction 5 × 7.5 feet wide ☐ Continuous sheet construction 5 × 12 feet wide ☐ Other (describe)	
26D. Deck seam length (ft) TBD	26E. Area of deck (ft²) TBD
For column supported tanks: 26F. Number of columns: 18	26G. Diameter of each column: 1 ft

IV. SITE INFORMANTION (optional if providing TANKS Summary Sheets)

27. Provide the city and state on which the data in this section are based. Elkins, WV	
28. Daily Average Ambient Temperature (°F)	50.25
29. Annual Average Maximum Temperature (°F)	61.5
30. Annual Average Minimum Temperature (°F)	39
31. Average Wind Speed (miles/hr)	4.5
32. Annual Average Solar Insulation Factor (BTU/(ft²·day))	1173
33. Atmospheric Pressure (psia)	13.69

V. LIQUID INFORMATION (optional if providing TANKS Summary Sheets)

34. Average daily temperature range of bulk liquid:	
34A. Minimum (°F) N/A	34B. Maximum (°F) N/A
35. Average operating pressure range of tank:	
35A. Minimum (psig) Ambient	35B. Maximum (psig) Ambient
36A. Minimum Liquid Surface Temperature (°F) N/A	36B. Corresponding Vapor Pressure (psia) N/A
37A. Average Liquid Surface Temperature (°F) 52.13	37B. Corresponding Vapor Pressure (psia) 0.005
38A. Maximum Liquid Surface Temperature (°F) N/A	38B. Corresponding Vapor Pressure (psia) N/A

39. Provide the following for <u>each</u> liquid or gas to be stored in tank. Add additional pages if necessary.

39A.	Material Name or Composition	Diesel		
39B.	CAS Number	Varies		
39C.	Liquid Density (lb/gal)	Approx. 7.1		
39D.	Liquid Molecular Weight (lb/lb-mole)	Approx. 188		
39E.	Vapor Molecular Weight (lb/lb-mole)	Approx. 130		

Maximum Vapor Pressure 39F. True (psia) 39G. Reid (psia)	 0.006 (at 60°F) TBD		
Months Storage per Year 39H. From 39I. To	12 January December		

VI. EMISSIONS AND CONTROL DEVICE DATA (required)

40. Emission Control Devices (check as many as apply): ☒ Does Not Apply

- ☐ Carbon Adsorption[1]
- ☐ Condenser[1]
- ☐ Conservation Vent (psig)
  - Vacuum Setting — Pressure Setting
- ☐ Emergency Relief Valve (psig)
- ☐ Inert Gas Blanket of
- ☐ Insulation of Tank with
- ☐ Liquid Absorption (scrubber)[1]
- ☐ Refrigeration of Tank
- ☐ Rupture Disc (psig)
- ☐ Vent to Incinerator[1]
- ☐ Other[1] (describe):

[1] Complete appropriate Air Pollution Control Device Sheet.

41. Expected Emission Rate (submit Test Data or Calculations here or elsewhere in the application).

Material Name & CAS No.	Breathing Loss (lb/hr)	Working Loss Amount	Working Loss Units	Annual Loss (lb/yr)	Estimation Method[1]
Please see attached emission calculations and TANKS Report.					

[1] EPA = EPA Emission Factor, MB = Material Balance, SS = Similar Source, ST = Similar Source Test, Throughput Data, O = Other (specify)

☐ Remember to attach emissions calculations, including TANKS Summary Sheets if applicable.

Attachment L
FUGITIVE EMISSIONS FROM UNPAVED HAULROADS – N/A

UNPAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)

		PM	PM-10
k =	Particle size multiplier	0.80	0.36
s =	Silt content of road surface material (%)		
p =	Number of days per year with precipitation >0.01 in.		

Item Number	Description	Number of Wheels	Mean Vehicle Weight (tons)	Mean Vehicle Speed (mph)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1									
2									
3									
4									
5									
6									
7									
8									

Source: *AP-42 Fifth Edition – 13.2.2 Unpaved Roads*

$E = k \times 5.9 \times (s \div 12) \times (S \div 30) \times (W \div 3)^{0.7} \times (w \div 4)^{0.5} \times ((365 - p) \div 365) =$ lb/Vehicle Mile Traveled (VMT)

Where:

		PM	PM-10
k =	Particle size multiplier	0.80	0.36
s =	Silt content of road surface material (%)		
S =	Mean vehicle speed (mph)		
W =	Mean vehicle weight (tons)		
w =	Mean number of wheels per vehicle		
p =	Number of days per year with precipitation >0.01 in.		

For lb/hr: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] = lb/hr

For TPY: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] × [Ton ÷ 2000 lb] = Tons/year

SUMMARY OF UNPAVED HAULROAD EMISSIONS

Item No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1								
2								
3								
4								
5								
6								
7								
8								
TOTALS								

FUGITIVE EMISSIONS FROM PAVED HAULROADS

INDUSTRIAL PAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)

l =	Industrial augmentation factor (dimensionless)	N/A
n =	Number of traffic lanes	N/A
s =	Surface material silt content (%)	sL (road surface silt loading) = 1.4 g/m^2
L =	Surface dust loading (lb/mile)	N/A

Item Number	Description	Mean Vehicle Weight (tons)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1	Paved Roadways	5.19	2.99	Yearly Avg. 2.34	20,558	N/A	N/A
2							
3							
4							
5							
6							
7							
8							

Source: *AP-42 Fifth Edition – 11.2.6 Industrial Paved Roads*

~~E = 0.077 × l × (4 ÷ n) × (s ÷ 10) × (L ÷ 1000) × (W ÷ 3)$^{0.7}$~~ = PM 0.07; PM$_{10}$ 0.01 lb/Vehicle Mile Traveled (VMT)

Where: AP-42, Chapter 13.2.1 Paved Roads was used for calculation methodology

l =	Industrial augmentation factor (dimensionless)	N/A
n =	Number of traffic lanes	N/A
s =	Surface meterial silt content (%)	sL (road surface silt loading) = 1.4 g/m^2
L =	Surface dust loading (lb/mile)	N/A
W =	Average vehicle weight (tons)	5.19

For lb/hr: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] = PM 0.48; PM$_{10}$ 0.10 lb/hr

For TPY: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] × [Ton ÷ 2000 lb] = PM 2.11; PM$_{10}$ 0.42 Tons/year

SUMMARY OF PAVED HAULROAD EMISSIONS

Item No.	Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY
1	PM 0.48; PM$_{10}$ 0.10	PM 2.11; PM$_{10}$ 0.42	PM 0.48; PM$_{10}$ 0.10	PM 2.11; PM$_{10}$ 0.42
2				
3				
4				
5				
6				
7				
8				
TOTALS	PM 0.48; PM$_{10}$ 0.10	PM 2.11; PM$_{10}$ 0.42	PM 0.48; PM$_{10}$ 0.10	PM 2.11; PM$_{10}$ 0.42

ATTACHMENT M

AIR POLLUTION CONTROL DEVICE SHEET(S)

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Engine Air Pollution Control Device
(Emission Unit ID# [redacted], use extra pages as necessary)

Air Pollution Control Device Manufacturer's Data Sheet included?
Yes ☐ No ☒

☐ NSCR	☒ SCR	☒ Oxidation Catalyst

Provide details of process control used for proper mixing/control of reducing agent with gas stream: VPI's design utilizes CFD to confirm the distribution of ammonia upstream of the catalysts. Inlet duct geometry and upstream heating surface and its associated pressure drop are used to provide flow straightening. The logic for the AFCU skid for ammonia flow rate control will be tied into the plant DCS.

Manufacturer: [redacted]	Model #: N/A
Design Operating Temperature: TBD °F	Design gas volume: TBD scfm
Service life of catalyst: 24,000 hours / 3 years after delivery	Provide manufacturer data? ☐Yes ☒ No
Volume of gas handled: TBD acfm at TBD °F	Operating temperature range for NSCR/Ox Cat: From TBD °F to TBD °F
Reducing agent used, if any: Aqueous ammonia (19%)	Ammonia slip (ppm): 5 ppmvd @15%O2
Pressure drop against catalyst bed (delta P): TBD inches of H_2O	

Provide description of warning/alarm system that protects unit when operation is not meeting design conditions: Control logic for the SCR system will be provided for programming into the DCS.

Is temperature and pressure drop of catalyst required to be monitored per 40CFR63 Subpart ZZZZ?
☐ Yes ☒ No

How often is catalyst recommended or required to be replaced (hours of operation)?
Catalyst replacement is recommended at the end of the of the specified warranty period.

How often is performance test required?
Performance testing will be completed in accordance with the requirements of 40 CFR 60, Subpart KKKK.

ATTACHMENT N

SUPPORTING EMISSIONS CALCULATIONS

Civil & Environmental Consultants, Inc.					
SUBJECT	PTE Calculations - Emission Summary Natural Gas Turbines			PROJECT NO.	350-613
PROJECT	RIDGELINE FACILITY PTE Calculations Tucker County, West Virginia			SHEET	1
MADE BY:	CNS	DATE: 3/17/2025	CHECKED BY: CMG	DATE:	3/17/2025

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Hourly Emissions (lb/hr)[1,2]

Pollutant	[redacted]	Total Turbine Emissions	Diesel Tank 1	Diesel Tank 2	Diesel Tank 3	Paved Roadways	Total
			TK1	TK2	TK3	1R	
Oxides of Nitrogen		30.80	--	--	--	--	30.80
Carbon Monoxide		6.30	--	--	--	--	6.30
Sulfur Dioxide		19.21	--	--	--	--	19.21
PM		31.10	--	--	--	0.48	31.58
PM_{10}		23.30	--	--	--	0.10	23.40
$PM_{2.5}$		23.30	--	--	--	0.02	23.32
VOC		14.30	0.01	0.01	0.01	--	14.32
Formaldehyde		1.26	--	--	--	--	1.26
Total HAPs		3.04	0.01	0.01	0.01	--	3.06
Carbon Dioxide		667,810.00	--	--	--	--	667,810.00
Methane		48.59	--	--	--	--	48.59
Nitrous Oxide		0.01	--	--	--	--	0.01
Lead		0.00	--	--	--	--	0.00
CO_2e		669,172.98	--	--	--	--	669,172.98

Annual Emissions (ton/yr)[1,3]

Pollutant	[redacted]	Total Restricted Turbine Emissions	Turbine Startup/Shutdown Emissions	Diesel Tank 1	Diesel Tank 2	Diesel Tank 3	Paved Roadways	Total
				TK1	TK2	TK3	1R	
Oxides of Nitrogen		94.43	4.54	--	--	--	--	98.98
Carbon Monoxide		19.32	37.05	--	--	--	--	56.36
Sulfur Dioxide		58.89	--	--	--	--	--	58.89
PM		95.35	--	--	--	--	2.11	97.46
PM_{10}		71.44	--	--	--	--	0.42	71.86
$PM_{2.5}$		71.44	--	--	--	--	0.10	71.54
VOC		43.84	--	0.03	0.03	0.03	--	43.93
Formaldehyde		3.86	--	--	--	--	--	3.86
Total HAPs		9.33	--	0.03	0.03	0.03	--	9.42
Carbon Dioxide		2,047,505.46	--	--	--	--	--	2,047,505.46
Methane		148.97	--	--	--	--	--	148.97
Nitrous Oxide		0.03	--	--	--	--	--	0.03
Lead		--	--	--	--	--	--	0.00
CO_2e		2,051,684.36	--	--	--	--	--	2,051,684.36

[1] Emissions are representative of restricted turbine operations using natural gas as their only fuel.

[2] Hourly emissions are representative steady-state operations of turbines. Startup and shutdown emissions will vary.

[3] In total, the operation of all turbines, if operating solely on natural gas, would be restricted to 61,320 hours per year. The facility total is based on this restriction.

Civil & Environmental Consultants, Inc.					
SUBJECT	PTE Calculations - Emission Summary Diesel Turbines			PROJECT NO.	350-613
PROJECT	RIDGELINE FACILITY PTE Calculations Tucker County, West Virginia			SHEET	2
MADE BY:	CNS	DATE: 3/17/2025	CHECKED BY: CMG	DATE:	3/17/2025

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Hourly Emissions (lb/hr)[1,2]

Pollutant	[redacted]	Total Turbine Emissions	Diesel Tank 1	Diesel Tank 2	Diesel Tank 3	Paved Roadways	Total
			TK1	TK2	TK3	1R	
Oxides of Nitrogen		74.50	--	--	--	--	74.50
Carbon Monoxide		5.40	--	--	--	--	5.40
Sulfur Dioxide		6.82	--	--	--	--	6.82
PM		44.20	--	--	--	0.48	44.68
PM_{10}		22.10	--	--	--	0.10	22.20
$PM_{2.5}$		22.10	--	--	--	0.02	22.12
VOC		30.90	0.01	0.01	0.01	--	30.92
Formaldehyde		1.26	--	--	--	--	1.26
Total HAPs		5.64	0.01	0.01	0.01	--	5.66
Carbon Dioxide		744,890.00	--	--	--	--	744,890.00
Methane		0.29	--	--	--	--	0.29
Nitrous Oxide		0.06	--	--	--	--	0.06
Lead		0.06	--	--	--	--	0.06
CO_2e		744,913.46	--	--	--	--	744,913.46

Annual Emissions (ton/yr)[1,3]

Pollutant	[redacted]	Total Restricted Turbine Emissions	Turbine Startup/Shutdown Emissions	Diesel Tank 1	Diesel Tank 2	Diesel Tank 3	Paved Roadways	Total
				TK1	TK2	TK3	1R	
Oxides of Nitrogen		93.13	6.22	--	--	--	--	99.35
Carbon Monoxide		6.75	46.10	--	--	--	--	52.85
Sulfur Dioxide		8.53	--	--	--	--	--	8.53
PM		55.25	--	--	--	--	2.11	57.36
PM_{10}		27.63	--	--	--	--	0.42	28.05
$PM_{2.5}$		27.63	--	--	--	--	0.10	27.73
VOC		38.63	--	0.03	0.03	0.03	--	38.71
Formaldehyde		1.58	--	--	--	--	--	1.58
Total HAPs		7.05	--	0.03	0.03	0.03	--	7.14
Carbon Dioxide		931,112.50	--	--	--	--	--	931,112.50
Methane		0.36	--	--	--	--	--	0.36
Nitrous Oxide		0.07	--	--	--	--	--	0.07
Lead		0.08	--	--	--	--	--	0.08
CO_2e		931,141.83	--	--	--	--	--	931,141.83

[1] Emissions are representative of restricted turbine operations using diesel as their only fuel.

[2] Hourly emissions are representative steady-state operations of turbines. Startup and shutdown emissions may vary.

[3] In total, the operation of all turbines, if operating solely on diesel fuel, would be restricted to 25,000 hours per year. The facility total is based on this restriction.

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Civil & Environmental Consultants, Inc.

SUBJECT	PTE Calculations - Natural Gas Turbines			PROJECT NO.	350-613
PROJECT	RIDGELINE FACILITY PTE Calculations			SHEET	3
	Tucker County, West Virginia				
MADE BY:	CNS	DATE:	3/18/2025	CHECKED BY: CMG	DATE: 3/18/2025

Assumptions:

			Reference:
Unrestricted Operating Schedule	8,760	hr/yr/turbine	Continuous Operations Assumption
Unrestricted Operating Schedule	365	days/yr	Continuous Operations Assumption
Restricted Operating Schedule	61,320	hr/yr	Total Restricted Hours for All Turbines
Number of Turbines	[redacted]	turbine(s)	Site Design
Number of Startups[1]	[redacted]		Facility Personnel
Number of Shutdowns[1]	[redacted]		Facility Personnel
Fuel HHV[2]	1,056	Btu/scf	Representative Gas Composition
Maximum Fuel Consumption (for single unit)	[redacted]	MMSCFD	Manufacturer's Information
Maximum Fuel Consumption (total for all units)	128.40	MMSCFD	Manufacturer's Information
Maximum Fuel Consumption (for single unit)	[redacted]	MMSCFH	Calculated
Maximum Fuel Consumption (total for all units)	5.35	MMSCFH	Calculated
Heat Input (for single unit)	[redacted]	MMBtu/hr	Calculated
Heat Input (total for all units)	5,649.60	MMBtu/hr	Calculated

Startup/Shutdown Emissions

Pollutant	Emission Rate Per Startup Event (lb/event)[3]	Emission Rate Per Shutdown Event (lb/event)[3]	Annual Emission Rate (ton/yr)
Oxides of Nitrogen	[redacted]	[redacted]	4.54
Carbon Monoxide	[redacted]	[redacted]	37.05

Controlled Steady-State Operations Emissions

Pollutant	Emission Factor[4]		Single Turbine		Total of All Turbines		
			Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Restricted Annual Emissions[5] (ton/yr)
Oxides of Nitrogen[6]	--	--	[redacted]	[redacted]	30.80	134.90	94.43
Carbon Monoxide[6]	--	--	[redacted]	[redacted]	6.30	27.59	19.32
Sulfur Dioxide	3.40E-03	lb/MMBtu	[redacted]	[redacted]	19.21	84.13	58.89
PM[6]	--	--	[redacted]	[redacted]	31.10	136.22	95.35
PM, filterable[7]	--	--	[redacted]	[redacted]	7.80	34.16	23.91
PM_{10} + CPM[6]	--	--	[redacted]	[redacted]	23.30	102.05	71.44
PM_{10}[7]	--	--	[redacted]	[redacted]	23.30	102.05	71.44
$PM_{2.5}$[7]	--	--	[redacted]	[redacted]	23.30	102.05	71.44
VOC (as CH_4)[6]	--	--	[redacted]	[redacted]	14.30	62.63	43.84
Carbon Dioxide[6]	--	--	[redacted]	[redacted]	667,810.00	2,925,007.80	2,047,505.46
Methane	8.6E-03	lb/MMBtu	[redacted]	[redacted]	48.59	212.81	148.97
Nitrous Oxide[8]	1.0E-04	kg/MMBtu	[redacted]	[redacted]	0.01	0.04	0.03
CO_2e[9]	--	--	[redacted]	[redacted]	669,172.98	2,930,977.66	2,051,684.36
1,3-Butadiene	4.3E-07	lb/MMBtu	[redacted]	[redacted]	0.002	0.01	0.01
Acetaldehyde	4.0E-05	lb/MMBtu	[redacted]	[redacted]	0.23	0.99	0.69
Acrolein	6.4E-06	lb/MMBtu	[redacted]	[redacted]	0.04	0.16	0.11
Benzene	1.2E-05	lb/MMBtu	[redacted]	[redacted]	0.07	0.30	0.21
Propylene Oxide	2.9E-05	lb/MMBtu	[redacted]	[redacted]	0.16	0.72	0.50
Ethylbenzene	3.2E-05	lb/MMBtu	[redacted]	[redacted]	0.18	0.79	0.55
Formaldehyde[6]	--	--	[redacted]	[redacted]	1.26	5.51	3.86
Naphthalene	1.3E-06	lb/MMBtu	[redacted]	[redacted]	0.01	0.03	0.02
PAH	2.2E-06	lb/MMBtu	[redacted]	[redacted]	0.01	0.05	0.04
Toluene	1.3E-04	lb/MMBtu	[redacted]	[redacted]	0.73	3.22	2.25
Xylenes	6.4E-05	lb/MMBtu	[redacted]	[redacted]	0.36	1.58	1.11
Total HAPs[10]	--	--	[redacted]	[redacted]	3.04	13.33	9.33

Uncontrolled Steady-State Operations Emissions

Pollutant	Single Turbine	Total of All Turbines		
		Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Restricted Annual Emissions[5] (ton/yr)
Oxides of Nitrogen[6]	[redacted]	308.40	1,350.79	945.55
Carbon Monoxide[6]	[redacted]	62.60	274.19	191.93

Notes

[redacted]

[2] HHV obtained via ProMax® for the representative natural gas composition presented in the manufacturer's turbine information for the project.

[3] Startup and shutdown emissions per event from manufacturer's information. Conservatively, the emissions for cold starts and stops are used.

[4] U.S. EPA AP-42, Ch. 3.1, Tables 3.1-2a and 3.1-3, Emission Factors for Natural Gas-Fired Stationary Gas Turbines. Unless otherwise noted.

[5] Restricted operating hours have been proposed to avoid exceeding any major source thresholds.

[6] Emissions in lb/hr taken from manufacturer provided data for turbine with SCR for controlled emissions and without SCR for uncontrolled emissions.

[7] Total PM is conservatively calculated as the sum of PM, filterable emissions and PM_{10} + CPM emissions. Emission factors for total PM_{10} and $PM_{2.5}$ are not available. Conservatively assume that PM_{10}+CPM = PM_{10} (total) = $PM_{2.5}$ (total).

[8] 40 CFR 98, Subpart C, Table C-2.

[9] CO_2e emissions are comprised of Carbon Dioxide (GWP of 1), Methane (GWP of 28), and Nitrous Oxide (GWP of 265).

[10] Total HAPs exclude naphthalene, which is assumed to be included in the PAH emissions, to avoid double counting.

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Civil & Environmental Consultants, Inc.

SUBJECT	PTE Calculations - Diesel Turbines			PROJECT NO.	350-613
PROJECT	RIDGELINE FACILITY PTE Calculations			SHEET	4
	Tucker County, West Virginia				
MADE BY:	CNS	DATE:	3/17/2025	CHECKED BY: CMG	DATE: 3/17/2025

Assumptions:

			Reference:
Unrestricted Operating Schedule	8,760	hr/yr/turbine	Continuous Operations Assumption
Unrestricted Operating Schedule	365	days/yr	Continuous Operations Assumption
Restricted Operating Schedule	25,000	hr/yr	Total Restricted Hours for All Turbines
Number of Turbines	[redacted]	turbine(s)	Site Design
Number of Startups[1]	[redacted]		Facility Personnel
Number of Shutdowns[1]	[redacted]		Facility Personnel
Fuel Heating Value[2]	137,000	Btu/gal	AP-42, Appendix A
Maximum Fuel Consumption (for single unit)	[redacted]	lb/s	Manufacturer's Information
Maximum Fuel Consumption (total for all units)	64.83	lb/s	Manufacturer's Information
Diesel Density	7.1	lb/gal	AP-42, Chapter 3.4
Maximum Fuel Consumption (for single unit)	[redacted]	gal/hr	Calculated
Maximum Fuel Consumption (total for all units)	32,872	gal/hr	Calculated
Heat Input (for single unit)	[redacted]	MMBtu/hr	Calculated
Heat Input (total for all units)	4,503.4	MMBtu/hr	Calculated
Sulfur Content	15	ppm	Limit for ULSD

Startup/Shutdown Emissions

Pollutant	Emission Rate Per Startup Event (lb/event)[3]	Emission Rate Per Shutdown Event (lb/event)[3]	Annual Emission Rate (ton/yr)
Oxides of Nitrogen	[redacted]		6.22
Carbon Monoxide			46.10

Controlled Steady-State Operations Emissions

Pollutant	Emission Factor[4]		Single Turbine		Total of All Turbines		
			Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Restricted Annual Emissions[5] (ton/yr)
Oxides of Nitrogen[6]	--	--	[redacted]		74.50	326.31	93.13
Carbon Monoxide[6]	--	--			5.40	23.65	6.75
Sulfur Dioxide	1.52E-03	lb/MMBtu			6.82	29.88	8.53
PM[7]	--	--			44.20	193.60	55.25
PM, filterable[6]	--	--			22.10	96.80	27.63
PM_{10} + CPM[6]	--	--			22.10	96.80	27.63
PM_{10}[7]	--	--			22.10	96.80	27.63
$PM_{2.5}$[7]	--	--			22.10	96.80	27.63
VOC (as CH_4)[6]	--	--			30.90	135.34	38.63
Carbon Dioxide[6]	--	--			744,890.00	3,262,618.20	931,112.50
Methane[8]	3.0E-03	kg/MMBtu			0.29	1.27	0.36
Nitrous Oxide[8]	6.0E-04	kg/MMBtu			0.06	0.25	0.07
CO_2e[9]	--	--			744,913.46	3,262,720.98	931,141.83
Lead	1.4E-05	lb/MMBtu			0.06	0.28	0.08
1,3-Butadiene	1.6E-05	lb/MMBtu			0.07	0.32	0.09
Benzene	5.5E-05	lb/MMBtu			0.25	1.08	0.31
Formaldehyde	2.8E-04	lb/MMBtu			1.26	5.52	1.58
Naphthalene	3.5E-05	lb/MMBtu			0.16	0.69	0.20
PAH	4.0E-05	lb/MMBtu			0.18	0.79	0.23
Arsenic	1.1E-05	lb/MMBtu			0.05	0.22	0.06
Beryllium	3.1E-07	lb/MMBtu			0.001	0.01	0.00
Cadmium	4.8E-06	lb/MMBtu			0.02	0.09	0.03
Chromium	1.1E-05	lb/MMBtu			0.05	0.22	0.06
Manganese	7.9E-04	lb/MMBtu			3.56	15.58	4.45
Mercury	1.2E-06	lb/MMBtu			0.01	0.02	0.01
Nickel	4.6E-06	lb/MMBtu			0.02	0.09	0.03
Selenium	2.5E-05	lb/MMBtu			0.11	0.49	0.14
Total HAPs[10]	--	--			5.64	24.71	7.05

Uncontrolled Steady-State Operations Emissions

Pollutant	Single Turbine		Total of All Turbines		
	Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Hourly Emission Rate (lb/hr)	Unrestricted Annual Emissions (ton/yr)	Restricted Annual Emissions[5] (ton/yr)
Oxides of Nitrogen[6]	[redacted]		744.90	3,262.66	931.13
Carbon Monoxide[6]			54.00	236.52	67.50

Notes

[redacted]

[2] Heating value is for from AP-42, Appendix A for diesel.

[3] Startup and shutdown emissions per event from manufacturer's information.

[4] U.S. EPA AP-42, Ch. 3.1, Tables 3.1-2a, 3.1-4 and 3.1-5, Emission Factors for Distillate Oil-Fired Stationary Gas Turbines. Unless otherwise noted.

[5] Restricted operating hours have been proposed to avoid exceeding any major source thresholds.

[6] Emissions in lb/hr taken from manufacturer provided data for turbine with SCR for controlled emissions and without SCR for uncontrolled emissions.

[7] Total PM is conservatively calculated as the sum of PM, filterable emissions and PM_{10} + CPM emissions. Emission factors for total PM_{10} and $PM_{2.5}$ are not available. Conservatively assume that PM_{10}+CPM = PM_{10} (total) = $PM_{2.5}$ (total).

[8] 40 CFR 98, Subpart C, Table C-2.

[9] CO_2e emissions are comprised of Carbon Dioxide (GWP of 1), Methane (GWP of 28), and Nitrous Oxide (GWP of 265).

[10] Total HAPs exclude naphthalene, which is assumed to be included in the PAH emissions, to avoid double counting.

Civil & Environmental Consultants, Inc.							
SUBJECT	PTE Calculations - Diesel Tanks					PROJECT NO.	350-613
PROJECT	RIDGELINE FACILITY PTE Calculations					SHEET	5
	Tucker County, West Virginia						
MADE BY:	CNS	DATE:	3/3/2025	CHECKED BY:	CMG	DATE:	3/3/2025

Inputs & Assumptions			Reference
Operating Schedule	8,760	hours/year	Assume Continuous Operations
Tank Count	3	tanks	Planned Site Design
Single Tank Working Capacity	10,000,000	gallons	Planned Site Design
Tank Length	66	ft	Planned Site Design
Tank Diameter	180	ft	Planned Site Design
Total System Throughput	15,000,000	gal/yr	Planned Site Design

Hourly Emissions[1,2,3,4]

Pollutant	Single Tank Hourly Emission Rates						Total Tanks Hourly Emission Rates					
	Working Loss (lb/hr)	Standing Loss (lb/hr)	Rim Seal Losses (lb/hr)	Deck Fitting Losses (lb/hr)	Deck Seam Losses (lb/hr)	Total Tank Emissions (lb/hr)	Working Loss (lb/hr)	Standing Loss (lb/hr)	Rim Seal Losses (lb/hr)	Deck Fitting Losses (lb/hr)	Deck Seam Losses (lb/hr)	Total Tanks Emissions (lb/hr)
Diesel	8.34E-04	2.82E-03	1.46E-04	2.68E-03	0.00E+00	6.48E-03	2.50E-03	8.47E-03	4.37E-04	8.03E-03	0.00E+00	1.94E-02
Total VOCs	8.34E-04	2.82E-03	1.46E-04	2.68E-03	0.00E+00	6.48E-03	2.50E-03	8.47E-03	4.37E-04	8.03E-03	0.00E+00	1.94E-02
Total HAPs[5]	8.34E-04	2.82E-03	1.46E-04	2.68E-03	0.00E+00	6.48E-03	2.50E-03	8.47E-03	4.37E-04	8.03E-03	0.00E+00	1.94E-02

Annual Emissions[1,2,3]

Pollutant	Single Tank Annual Emission Rates						Total Tanks Annual Emission Rates					
	Working Loss (ton/yr)	Standing Loss (ton/yr)	Rim Seal Losses (ton/yr)	Deck Fitting Losses (ton/yr)	Deck Seam Losses (ton/yr)	Total Tank Emissions (ton/yr)	Working Loss (ton/yr)	Standing Loss (ton/yr)	Rim Seal Losses (ton/yr)	Deck Fitting Losses (ton/yr)	Deck Seam Losses (ton/yr)	Total Tanks Emissions (ton/yr)
Diesel	3.65E-03	1.24E-02	6.39E-04	1.17E-02	0.00E+00	2.84E-02	1.10E-02	3.71E-02	1.92E-03	3.52E-02	0.00E+00	8.51E-02
Total VOCs	3.65E-03	1.24E-02	6.39E-04	1.17E-02	0.00E+00	2.84E-02	1.10E-02	3.71E-02	1.92E-03	3.52E-02	0.00E+00	8.51E-02
Total HAPs[5]	3.65E-03	1.24E-02	6.39E-04	1.17E-02	0.00E+00	2.84E-02	1.10E-02	3.71E-02	1.92E-03	3.52E-02	0.00E+00	8.51E-02

[1] Emissions calculated by EPA TANKS 5.1 calculation tool.

[2] These tank calculations include routine losses only and no non-routine losses such as tank landing events.

[3] Tank rim vents will be open. Weighted mechanical actuation, gasketed rim vent types were chosen for these calculations.

[4] Hourly emissions are averaged over 8,760 hours per year.

[5] It is possible for diesel fuel to have very small amounts of HAPs. Conservatively, all diesel emissions are being counted as HAPs.

Civil & Environmental Consultants, Inc.

SUBJECT	PTE Calculations - Haul Roads			PROJECT NO.	350-613
PROJECT	RIDGELINE FACILITY PTE Calculations			PAGE	6
	Tucker County, West Virginia				
MADE BY:	CNS	DATE: 3/3/2025	CHECKED BY: CMG	DATE:	3/3/2025

Emission Factor Equation[1]

$E = [k (sL)^{0.91} * (W)^{1.02}](1-P/4N)$	Value	Units
Constant[2], k (PM)	0.011	lb/VMT
Constant[2], k (PM_{10})	0.0022	lb/VMT
Constant[2], k ($PM_{2.5}$)	0.00054	lb/VMT
Silt Loading, sL[3]	1.4	g/m^2
Mean Vehicle Weight (Diesel Trucks)	28.5	tons
Mean Vehicle Weight (Employee Vehicles)	2.25	tons
Average Vehicle Weight (Weighted), W	5.19	tons
Number of Wet Days[4] (≥0.01" precip), P	170	days

Notes

[1] AP-42 Ch 13.2.1. Equation 2

[2] AP-42 Table 13.2.1-1

[3] AP-42 Table 13.2.1-2, for ADT<500. Site specific silt loading information is not available. It is expected that the facility silt loading content will be comparable to that of public roadways. The ubiquitous winter baseline multiplier for anti-skid abrasives was added, conservatively assuming 5 months of the year would have frozen precipitation.

[4] AP-42 Figure 13.2.1-2

Input Data - Paved Roads

Parameters	Value	Units
Maximum Potential Operating Days per Year	365	days/year
Estimated Roundtrip Distance per Vehicle	2.99	miles/vehicle
Diesel Trucks per Year	2,308	vehicles/year
Vehicle Miles Traveled (VMT) per Year (Diesel Trucks)	6,909	miles/yr
Employee Vehicles per Day	50	vehicles/day
Vehicle Miles Traveled (VMT) per Year (Employee Vehicles)	54,632	miles/yr

Pollutant	Emission Factor (lb/VMT)	Uncontrolled Emissions	
		lb/hr[1]	tpy
PM	0.07	0.48	2.11
PM_{10}	0.01	0.10	0.42
$PM_{2.5}$	3.36E-03	0.02	0.10

Notes:

[1] Hourly emissions are averaged over 8,760 hours per year.

TANKS 5.1 CALCULATIONS

Tank ID	**TK1**	**TK2**	**TK3**
Tank Type	Internal Floating Roof Tank	Internal Floating Roof Tank	Internal Floating Roof Tank
Description			
City, State			
Company			
Meteorological Location	Elkins, WV	Elkins, WV	Elkins, WV
Chemical Name	No. 2 Fuel Oil (Diesel)	No. 2 Fuel Oil (Diesel)	No. 2 Fuel Oil (Diesel)
Annual Standing Losses (lb/yr)	24.72280799	24.72280799	24.72280799
Annual Rim Seal Losses (lb/yr)	1.277138924	1.277138924	1.277138924
Annual Deck Seam Losses (lb/yr)	0	0	0
Annual Deck Fitting Losses (lb/yr)	23.44566906	23.44566906	23.44566906
Annual Working Losses (lb/yr)	7.306378968	7.306378968	7.306378968
Annual Total Losses (lb/yr)	32.02918696	32.02918696	32.02918696

Tank ID	**TK1**	**TK2**	**TK3**
Tank Type	Internal Floating Roof Tank	Internal Floating Roof Tank	Internal Floating Roof Tank
Description			
City, State			
Company			
Chemical Name	No. 2 Fuel Oil (Diesel)	No. 2 Fuel Oil (Diesel)	No. 2 Fuel Oil (Diesel)
Annual Rim Seal Losses (lb/yr)	1.277138924	1.277138924	1.277138924
Seal Factor A (lb-mole/ft-yr)	0.6	0.6	0.6
Seal Factor B (lb-mole/ft-yr (mph^n))	0.4	0.4	0.4
Annual Average Wind Speed (mph)	0	0	0
Seal-related Wind Speed Exponent	1	1	1
Annual Average Value of Vapor Pressure Function	9.09643E-05	9.09643E-05	9.09643E-05
Annual Average Daily Avg. Liquid Surface Temp. (°R)	511.8005086	511.8005086	511.8005086
Annual Average Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0049803	0.0049803	0.0049803
Liquid Bulk Temperature (°R)	510.79975	510.79975	510.79975
Tank Paint Solar Absorptance (Shell)	0.25	0.25	0.25
Tank Paint Solar Absorptance (Roof)	0.25	0.25	0.25
Annual Average Vapor Molecular Weight (lb/lb-mole)	130	130	130
Annual Product Factor	1	1	1
Annual Withdrawal Losses (lb/yr)	7.306378968	7.306378968	7.306378968
Number of Columns	18	18	18
Effective Column Diameter (ft)	1	1	1
Annual Net Throughput (gal/yr)	5000000	5000000	5000000
Annual Sum of Decreases in Liquid Level (ft/yr)			
Annual Average Shell Clingage Factor (bbl/1000 sqft)	0.0015	0.0015	0.0015
Annual Average Organic Liquid Density (lb/gal)	7.1	7.1	7.1
Annual Deck Fitting Losses (lb/yr)	23.44566906	23.44566906	23.44566906
Annual Tot. Deck Fitting Loss Fact. (lb-mole/yr)	1982.66	1982.66	1982.66
Annual Deck Seam Losses (lb/yr)	0	0	0
Deck Seam Length (ft)			
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr)	0	0	0
Deck Seam Length Factor (ft/sqft)			

Tank ID	**TK1**	**TK2**	**TK3**
Tank Type	Internal Floating Roof Tank	Internal Floating Roof Tank	Internal Floating Roof Tank
Description			
City, State			
Company			
Meteorological Location	Elkins, WV	Elkins, WV	Elkins, WV
Tank Shape			
Shell Length (ft)			
Shell Side Length (ft)			
Shell Side 1 Length (ft)			
Shell Side 2 Length (ft)			
Shell Height (ft)	66	66	66
Shell Diameter (ft)	180	180	180
Maximum Liquid Height (ft)			
Average Liquid Height (ft)			
Minimum Liquid Height (ft)			
Is Tank Heated?			
Typical Maximum Liquid Bulk Temperature in Heating Cycle (°R)			
Typical Average Liquid Bulk Temperature in Heating Cycle (°R)			
Typical Minimum Liquid Bulk Temperature in Heating Cycle (°R)			
Number of Heating Cycles per Year			
Roof Type			
Vacuum Setting (psig)			
Pressure Setting (psig)			
Vapor Space Pressure at Normal Operating Conditions (psig)			
Is Tank Insulated?			
Is Tank Insulated or Underground?			
Tank Cone Roof Slope (ft/ft)			
Tank Dome Roof Radius (ft)			
Is Tank Equipped with a Control Device?			
Control Device Efficiency (%)			
Liquid Bulk Temperature Calculation Method	AP-42 Calculation	AP-42 Calculation	AP-42 Calculation
Liquid Bulk Temperature (°R)			
Tank Bottom Type	flat	flat	flat
Cone-Shaped Bottom Slope (ft/ft)			
Liquid Heel Type at Tank Minimum	none	none	none
Minimum Liquid Heel Height (ft)			
Self Supporting Roof?	No	No	No
Number of Columns	18	18	18
Effective Column Diameter	Unknown	Unknown	Unknown
Internal Shell Condition	Light Rust	Light Rust	Light Rust
Primary Seal	Mechanical Shoe	Mechanical Shoe	Mechanical Shoe
Secondary Seal	Rim-mounted	Rim-mounted	Rim-mounted
Seal Fit	Average-fitting	Average-fitting	Average-fitting
Deck Type	Welded	Welded	Welded
Tank Construction	Welded	Welded	Welded
Deck Construction			
Deck Seam			
Panel/Sheet Width (ft)			
Panel Length (ft)			
Shell Color/Shade	White	White	White
Shell Condition	Average	Average	Average
Roof Color/Shade	White	White	White
Roof Condition	Average	Average	Average

Tank ID	**TK1**	**TK2**	**TK3**
Tank Type	Internal Floating Roof Tank	Internal Floating Roof Tank	Internal Floating Roof Tank
Description			
City, State			
Company			
Access Hatch	Unbolted cover, gasketed	Unbolted cover, gasketed	Unbolted cover, gasketed
Access Hatch Count	1	1	1
Fixed Roof Support Column Well	Round pipe, gasketed sliding cover	Round pipe, gasketed sliding cover	Round pipe, gasketed sliding cover
Fixed Roof Support Column Well Count	72	72	72
Unslotted Guidepole and Well			
Unslotted Guidepole and Well Count			
Slotted Guidepole/Sample Well	Gasketed sliding cover, with pole sleeve	Gasketed sliding cover, with pole sleeve	Gasketed sliding cover, with pole sleeve
Slotted Guidepole/Sample Well Count	1	1	1
Gauge-float Well (Automatic Gauge)	Bolted cover, gasketed	Bolted cover, gasketed	Bolted cover, gasketed
Gauge-float Well Count (Automatic Gauge)	1	1	1
Gauge-hatch/Sample Port	Weighted mechanical actuation, gasketed	Weighted mechanical actuation, gasketed	Weighted mechanical actuation, gasketed
Gauge-hatch/Sample Port Count	1	1	1
Vacuum Breaker			
Vacuum Breaker Count			
Deck Drain			
Deck Drain Count			
Deck Leg	Adjustable	Adjustable	Adjustable
Deck Leg Count			
Deck Leg or Hanger (No opening through deck)			
Deck Leg or Hanger Count (No opening through deck)			
Rim Vent	Weighted mechanical actuation, gasketed	Weighted mechanical actuation, gasketed	Weighted mechanical actuation, gasketed
Rim Vent Count	19	19	19
Ladder Well	Sliding cover, gasketed	Sliding cover, gasketed	Sliding cover, gasketed
Ladder Well Count	1	1	1
Ladder-slotted Guidepole Combination Well	Ladder sleeve, gasketed sliding cover	Ladder sleeve, gasketed sliding cover	Ladder sleeve, gasketed sliding cover
Ladder-slotted Guidepole Combination Well Count	1	1	1
Deck Leg (Pontoon area of pontoon roofs)			
Deck Leg Count (Pontoon area of pontoon roofs)			
Deck Leg (Double-deck roofs and center area of pontoon roofs)			
Deck Leg Count (Double-deck roofs and center area of pontoon roofs)			

Tank ID	**TK1**	**TK2**	**TK3**
Meteorological Location	Elkins, WV	Elkins, WV	Elkins, WV
Annual Average Atmospheric Pressure (psi)	13.69	13.69	13.69
Annual Average Maximum Ambient Temperature (°F)	61.5	61.5	61.5
Annual Average Minimum Ambient Temperature (°F)	39	39	39
Annual Average Wind Speed (mph)	4.5	4.5	4.5
Annual Average Daily Total Insolation Factor (Btu/ft2/day)	1173	1173	1173
January Average Maximum Ambient Temperature (°F)	39.7	39.7	39.7
January Average Minimum Ambient Temperature (°F)	20.6	20.6	20.6
January Average Wind Speed (mph)	5.8	5.8	5.8
January Average Daily Total Insolation Factor (Btu/ft2/day)	574	574	574
February Average Maximum Ambient Temperature (°F)	42.3	42.3	42.3
February Average Minimum Ambient Temperature (°F)	21.5	21.5	21.5
February Average Wind Speed (mph)	5.8	5.8	5.8
February Average Daily Total Insolation Factor (Btu/ft2/day)	794	794	794
March Average Maximum Ambient Temperature (°F)	51.2	51.2	51.2
March Average Minimum Ambient Temperature (°F)	28.1	28.1	28.1
March Average Wind Speed (mph)	5.8	5.8	5.8
March Average Daily Total Insolation Factor (Btu/ft2/day)	1113	1113	1113
April Average Maximum Ambient Temperature (°F)	63.3	63.3	63.3
April Average Minimum Ambient Temperature (°F)	37	37	37
April Average Wind Speed (mph)	5.8	5.8	5.8
April Average Daily Total Insolation Factor (Btu/ft2/day)	1461	1461	1461
May Average Maximum Ambient Temperature (°F)	70.5	70.5	70.5
May Average Minimum Ambient Temperature (°F)	45.9	45.9	45.9
May Average Wind Speed (mph)	4.5	4.5	4.5
May Average Daily Total Insolation Factor (Btu/ft2/day)	1619	1619	1619
June Average Maximum Ambient Temperature (°F)	77.7	77.7	77.7
June Average Minimum Ambient Temperature (°F)	55.1	55.1	55.1
June Average Wind Speed (mph)	3.6	3.6	3.6
June Average Daily Total Insolation Factor (Btu/ft2/day)	1793	1793	1793
July Average Maximum Ambient Temperature (°F)	80.5	80.5	80.5
July Average Minimum Ambient Temperature (°F)	58.9	58.9	58.9
July Average Wind Speed (mph)	3.1	3.1	3.1
July Average Daily Total Insolation Factor (Btu/ft2/day)	1738	1738	1738
August Average Maximum Ambient Temperature (°F)	80.3	80.3	80.3
August Average Minimum Ambient Temperature (°F)	58.3	58.3	58.3
August Average Wind Speed (mph)	2.7	2.7	2.7
August Average Daily Total Insolation Factor (Btu/ft2/day)	1611	1611	1611
September Average Maximum Ambient Temperature (°F)	73.9	73.9	73.9
September Average Minimum Ambient Temperature (°F)	50.7	50.7	50.7
September Average Wind Speed (mph)	2.9	2.9	2.9
September Average Daily Total Insolation Factor (Btu/ft2/day)	1293	1293	1293
October Average Maximum Ambient Temperature (°F)	64	64	64
October Average Minimum Ambient Temperature (°F)	38.1	38.1	38.1
October Average Wind Speed (mph)	3.6	3.6	3.6
October Average Daily Total Insolation Factor (Btu/ft2/day)	972	972	972
November Average Maximum Ambient Temperature (°F)	52.7	52.7	52.7
November Average Minimum Ambient Temperature (°F)	30.3	30.3	30.3
November Average Wind Speed (mph)	4.7	4.7	4.7
November Average Daily Total Insolation Factor (Btu/ft2/day)	618	618	618
December Average Maximum Ambient Temperature (°F)	42.2	42.2	42.2
December Average Minimum Ambient Temperature (°F)	22.9	22.9	22.9
December Average Wind Speed (mph)	5.1	5.1	5.1
December Average Daily Total Insolation Factor (Btu/ft2/day)	498	498	498

Tank ID	**TK1**	**TK2**	**TK3**
Input Type	Enter Annual Values	Enter Annual Values	Enter Annual Values
Chemical Category of Liquid	Petroleum Liquids	Petroleum Liquids	Petroleum Liquids
Sum of Increases in Liquid Level Method	AP-42 Calculation	AP-42 Calculation	AP-42 Calculation
Working Loss Turnover Factor Method			
Annual Chemical Name	No. 2 Fuel Oil (Diesel)	No. 2 Fuel Oil (Diesel)	No. 2 Fuel Oil (Diesel)
Annual Speciation Option			
Annual Components to Speciate			
Annual Throughput	5000000	5000000	5000000
Annual Sum of Increases/Decreases in Liquid Level (ft/yr)			
January Chemical Name			
January Speciation Option			
January Components to Speciate			
January Throughput			
January Sum of Increases/Decreases in Liquid Level (ft/yr)			
February Chemical Name			
February Speciation Option			
February Components to Speciate			
February Throughput			
February Sum of Increases/Decreases in Liquid Level (ft/yr)			
March Chemical Name			
March Speciation Option			
March Components to Speciate			
March Throughput			
March Sum of Increases/Decreases in Liquid Level (ft/yr)			
April Chemical Name			
April Speciation Option			
April Components to Speciate			
April Throughput			
April Sum of Increases/Decreases in Liquid Level (ft/yr)			
May Chemical Name			
May Speciation Option			
May Components to Speciate			
May Throughput			
May Sum of Increases/Decreases in Liquid Level (ft/yr)			
June Chemical Name			
June Speciation Option			
June Components to Speciate			
June Throughput			
June Sum of Increases/Decreases in Liquid Level (ft/yr)			
July Chemical Name			
July Speciation Option			
July Components to Speciate			
July Throughput			
July Sum of Increases/Decreases in Liquid Level (ft/yr)			
August Chemical Name			
August Speciation Option			
August Components to Speciate			
August Throughput			
August Sum of Increases/Decreases in Liquid Level (ft/yr)			
September Chemical Name			
September Speciation Option			
September Components to Speciate			
September Throughput			
September Sum of Increases/Decreases in Liquid Level (ft/yr)			
October Chemical Name			
October Speciation Option			
October Components to Speciate			
October Throughput			
October Sum of Increases/Decreases in Liquid Level (ft/yr)			
November Chemical Name			
November Speciation Option			
November Components to Speciate			
November Throughput			
November Sum of Increases/Decreases in Liquid Level (ft/yr)			
December Chemical Name			
December Speciation Option			
December Components to Speciate			
December Throughput			
December Sum of Increases/Decreases in Liquid Level (ft/yr)			

TURBINE SPECIFICATIONS

Redacted Copy - Claim of Confidentiality

The turbine specification sheets have been redacted due to being confidential business information.

ATTACHMENT O

MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

Attachment O
Monitoring, Recordkeeping, Reporting and Testing Plans

Synthetic Minor Limits (40 CFR 52.21 and 40 CFR 70)

FUNDAMENTAL proposes to set operating limits on their turbines. FUNDAMENTAL will restrict the total number of operating hours for the turbines. If operating solely on natural gas, the total hours of operation will be restricted to 61,320 hours per year. If operating solely on diesel, the total hours of operation will be restricted to 25,000 hours per year. FUNDAMENTAL may operate using any combination of natural gas and diesel such that they restrict the total hours of operation as needed to remain under all major source thresholds. The operating hours of each turbine and the throughput of each type of fuel will be continuously monitored and recorded. FUNDAMENTAL will keep records of the total amount of hours each turbine uses natural gas as a fuel and the total amount of hours each turbine uses diesel as a fuel. The 12-month rolling sum of emissions will be calculated monthly.

40 CFR 60 Subpart KKKK

Subpart KKKK applies to each of the combustion turbines and heat recovery steam generators (HRSG) for control of nitrogen oxides (NOx) and sulfur dioxide (SO_2) emissions.

Monitoring

FUNDAMENTAL will install selective catalytic reduction (SCR) systems on each turbine to control NOx emissions. SCR parameters will be continuously monitored to verify proper operation (§ 60.4340(b)(iii)). FUNDAMENTAL proposes to monitor catalyst bed inlet temperature and pressure differential across the catalyst bed to indicate proper operation.

Recordkeeping

FUNDAMENTAL will keep records of the SCR continuous monitoring data, and 4-hour rolling unit operating hour averages of the monitored parameters.

An SCR parameter monitoring plan will be developed which explains the procedures used to document proper operation of the SCR units in accordance with § 60.4355. The plan must:

> (1) Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NOx emission controls,
>
> (2) Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established,
>
> (3) Explain the process you will use to make certain that you obtain data that are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable),

(4) Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data,

(5) Describe the frequency of monitoring and the data collection procedures which you will use, and

(6) Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, you must explain the reasons for the differences.

In accordance with § 60.4365(a), FUNDAMENTAL will keep records of the fuel characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying:

(1) The maximum total sulfur content of oil is 0.05 weight percent (500 ppmw) or less.
(2) The total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet.
(3) Potential sulfur emissions are less than 0.060 pounds SO_2/million Btu heat input.

Reporting

FUNDAMENTAL will submit notifications of the date construction commences, the actual date of initial startup as required under § 60.7.

FUNDAMENTAL will report excess emissions and monitor downtime semiannually, in accordance with § 60.4375(a) and § 60.7(c). Excess emissions will be reported for all periods of unit operation, including start-up, shutdown, and malfunction. An excess emission is a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan. A period of monitor downtime is a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

FUNDAMENTAL will submit the results of the initial performance test within 60 days following completion of the test.

Testing

An initial performance test for NOx emissions is required under § 60.8 and § 60.4400. The initial performance test will be conducted within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Separate performance testing is required for natural gas and diesel fuel.

45 CSR 17 – Fugitive Sources of Particulate Matter

Sources of fugitive particulate matter at the facility include diesel truck and employee traffic on paved plant roads. FUNDAMENTAL will conduct a visual inspection of the paved roads once each operating day to ensure no fugitive emissions are generated. When needed, roads will be swept and/or watered to minimize fugitive dust. Records will be kept of the inspections and any corrective actions.

45 CSR 40 – Control of Ozone Season NOx

FUNDAMENTAL is proposing an alternative monitoring scenario in accordance with Section 6.6 of 45 CSR 40. The alternative monitoring scenario is consistent with the requirements in 40 CFR 60 Subpart KKKK.

FUNDAMENTAL will conduct initial performance testing to determine the NOx emission rate in pounds per million Btu. Approved SCR parameters will be monitored to demonstrate compliance with the NOx emission limit.

To determine the heat input for each turbine, the amount of each type of fuel will be continuously monitored and recorded. The total monthly heat input will be determined using the monitored fuel data. The total monthly NOx emissions will be calculated for each month during ozone season. The total NOx mass emissions will be calculated for the ozone season each year.

ATTACHMENT P

PUBLIC NOTICE

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that FUNDAMENTAL DATA LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for the RIDGELINE FACILITY to be located off of US-48, near the City of Thomas, in Tucker County, West Virginia. The latitude and longitude coordinates are 39.153639°, -79.466406°.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be:

NO_X:	99.35	tpy
CO:	56.36	tpy
VOC:	43.93	tpy
SO_2:	58.89	tpy
PM:	97.46	tpy
PM_{10}:	71.86	tpy
$PM_{2.5}$:	71.54	tpy
Lead:	0.08	tpy
Total HAPs:	9.42	tpy

Startup of operation is planned to begin in 2027 or 2028. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality (DAQ), 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Written comments will also be received via email at DEPAirQualityPermitting@WV.gov.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 41281, during normal business hours.
Dated the 18th day of March, 2025.

By: FUNDAMENTAL DATA LLC
Casey L. Chapman
Responsible Official
125 Hirst Rd. Suite 1A
Purcellville, VA 20132

ATTACHMENT Q

BUSINESS CONFIDENTIAL CLAIMS

Attachment Q – Business Confidential Claims has been included as a cover page to this application, in accordance with 45CSR31 §45-31-3.