west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: (304) 926-0475
Fax: (304) 926-0479

Harold D. Ward, Cabinet Secretary
dep.wv.gov

October 15, 2025

CERTIFICATION

RE: Tucker United, West Virginia Highlands Conservancy, and Sierra Club v. Director, Division of Air Quality, Department of Environmental Protection

Fundamental Data LLC

APPEAL NO: 25-02-AQB

I, Laura Crowder, Director, Division of Air Quality, Department of Environmental Protection, in compliance with Chapter 22B, Article 1, Section 7 (e), Code of West Virginia, as amended, do hereby certify that the enclosed is a true and accurate reproduction of the record of the proceedings out of which the appeal arises including documents and correspondence in the Director's file relating to the matter in question.

Division of Air Quality

Laura M. Crowder
Director

LMC/srm
Enclosures

Table of Contents

25-02-AQB - Certified File

1. Redacted Permit Application

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

Company Name	FUNDAMENTAL DATA LLC	Responsible Official		
Company Address	125 Hirst Rd. Suite 1A Purcellville, VA 20132	Confidential Information Designee	Name	Casey Chapman
			Title	Responsible Official
			Address	125 Hirst Rd. Suite 1A
				Purcellville, VA 20132
Person/Title Submitting Confidential Information	Casey Chapman Responsible Official		Phone	(540) 338-8271
			Fax	(540) 338-1301

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:	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

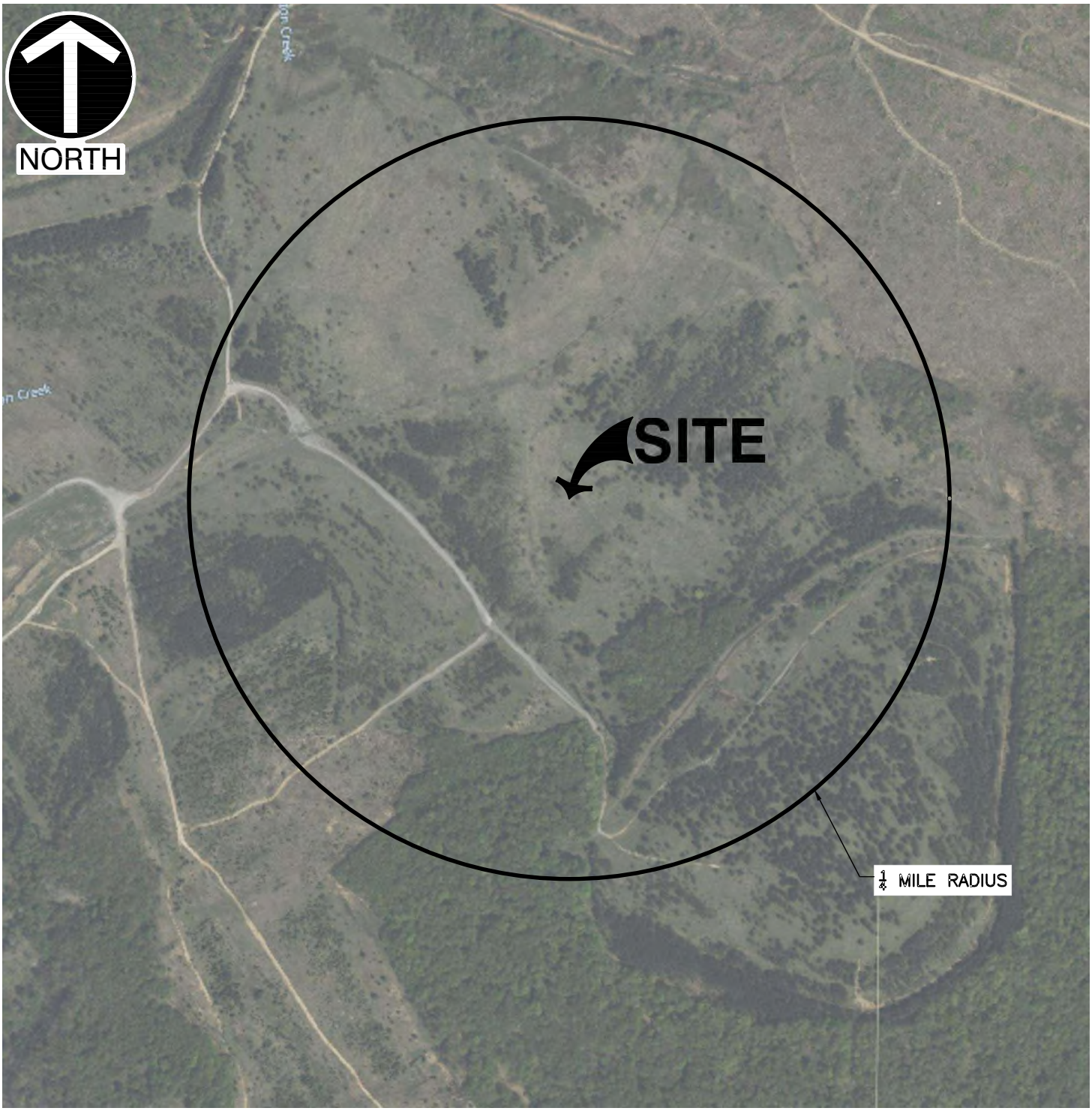
February 24, 2025

[redacted]

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

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)

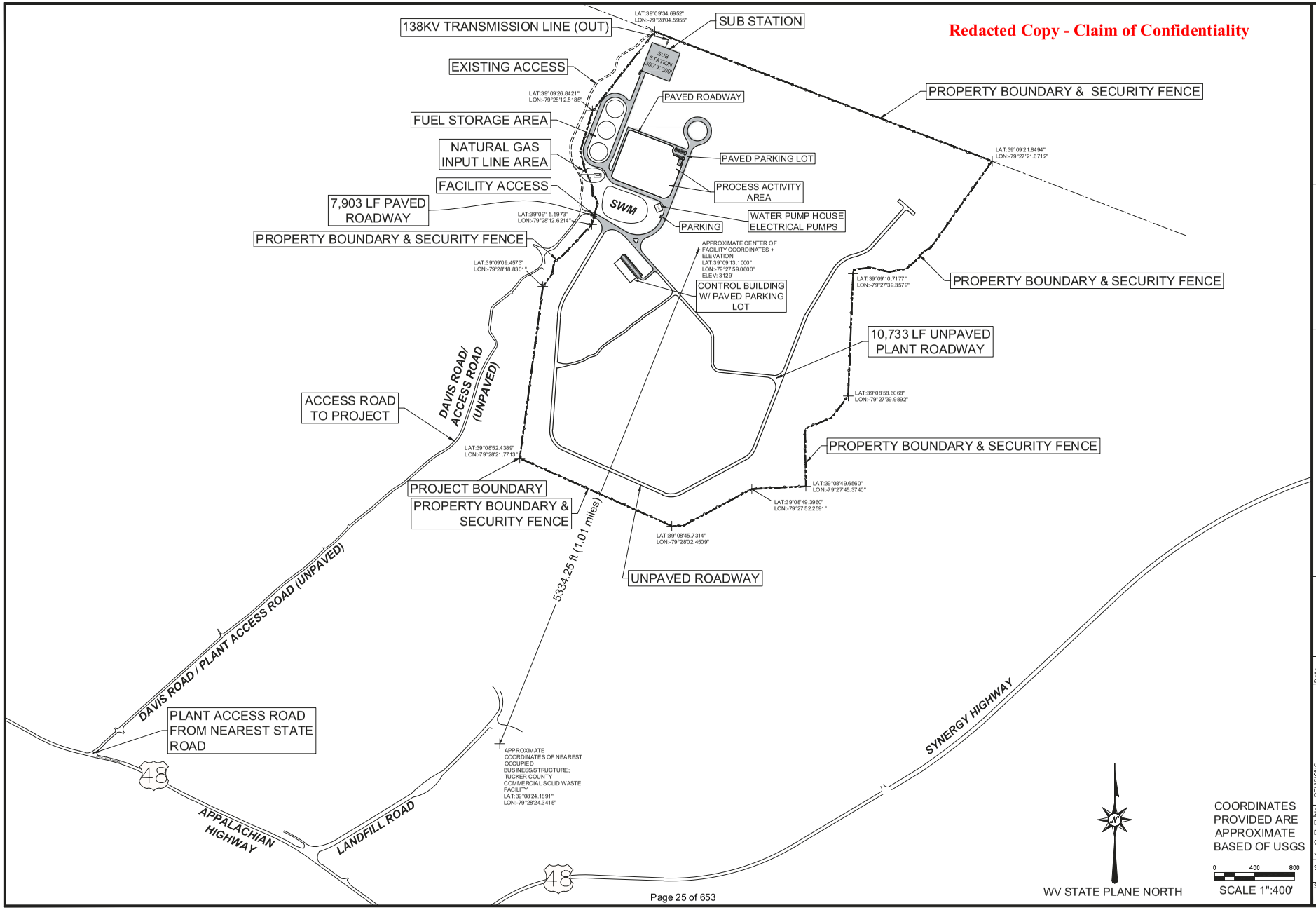
45 CSR 34-1 incorporates the federal Clean Air Act (CAA) national emissions standards for hazardous air pollutants (NESHAPs) as set forth in 40 CFR Parts 61 and 63 by reference. As such, by complying with all applicable requirements of 40 CFR Parts 61 and 63 at RIDGELINE FACILITY, FUNDAMENTAL will be 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



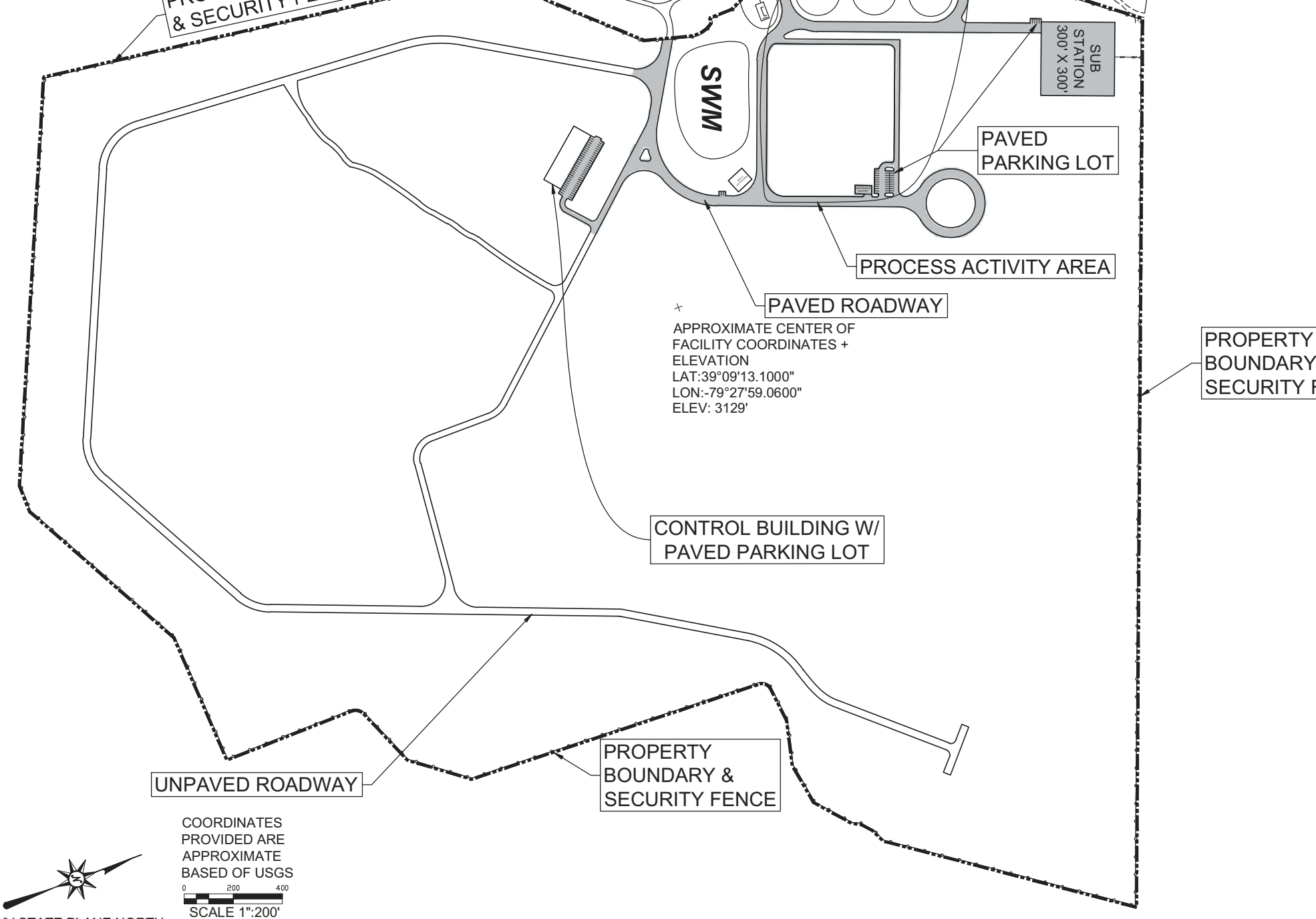
PLOT PLAN
RIDGELINE FACILITY
Tucker County, Virginia

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

RIDGELINE

No.	REVISIONS	Date
1	ORIGINAL	05.10.25
2	REVISION 1	05.17.25
3	REVISION 2	
4		
5		
6		
7		
8		
9		
10		

Design: MN
Drawn: HMP
Checked: MN
Job #:
Scale: 1" = 400'
Sheet: 1 of 3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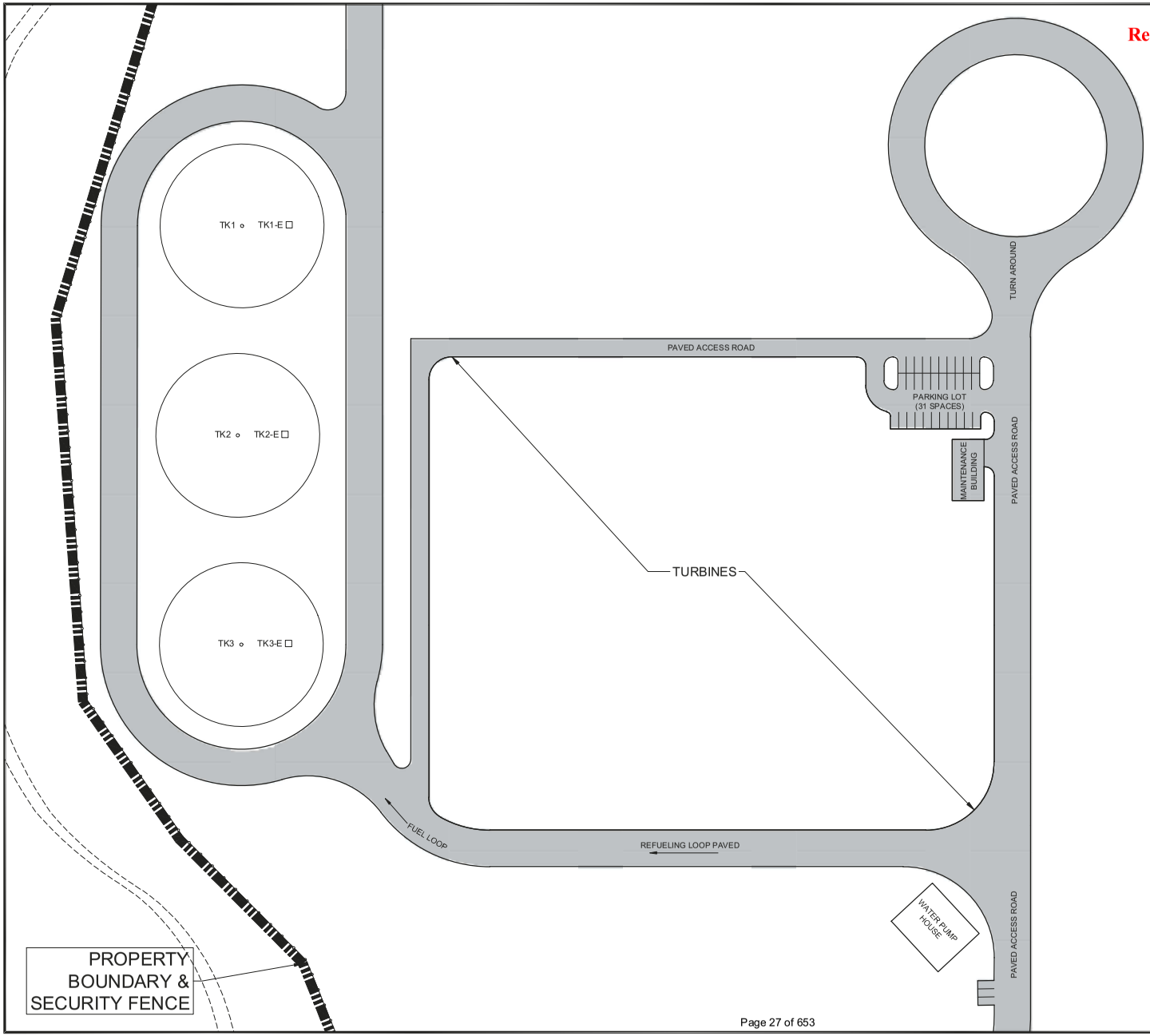
SWM
SUB STATION 300' X 300'
PAVED PARKING LOT
PROCESS ACTIVITY AREA
PAVED ROADWAY
APPROXIMATE CENTER OF FACILITY COORDINATES + ELEVATION
LAT:39°09'13.1000"
LON:-79°27'59.0600"
ELEV: 3129'
PROPERTY BOUNDARY
SECURITY F
CONTROL BUILDING W/ PAVED PARKING LOT
UNPAVED ROADWAY
PROPERTY BOUNDARY & SECURITY FENCE
COORDINATES PROVIDED ARE APPROXIMATE BASED OF USGS
0 200 400
SCALE 1":200'
WV STATE PLANE NORTH

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

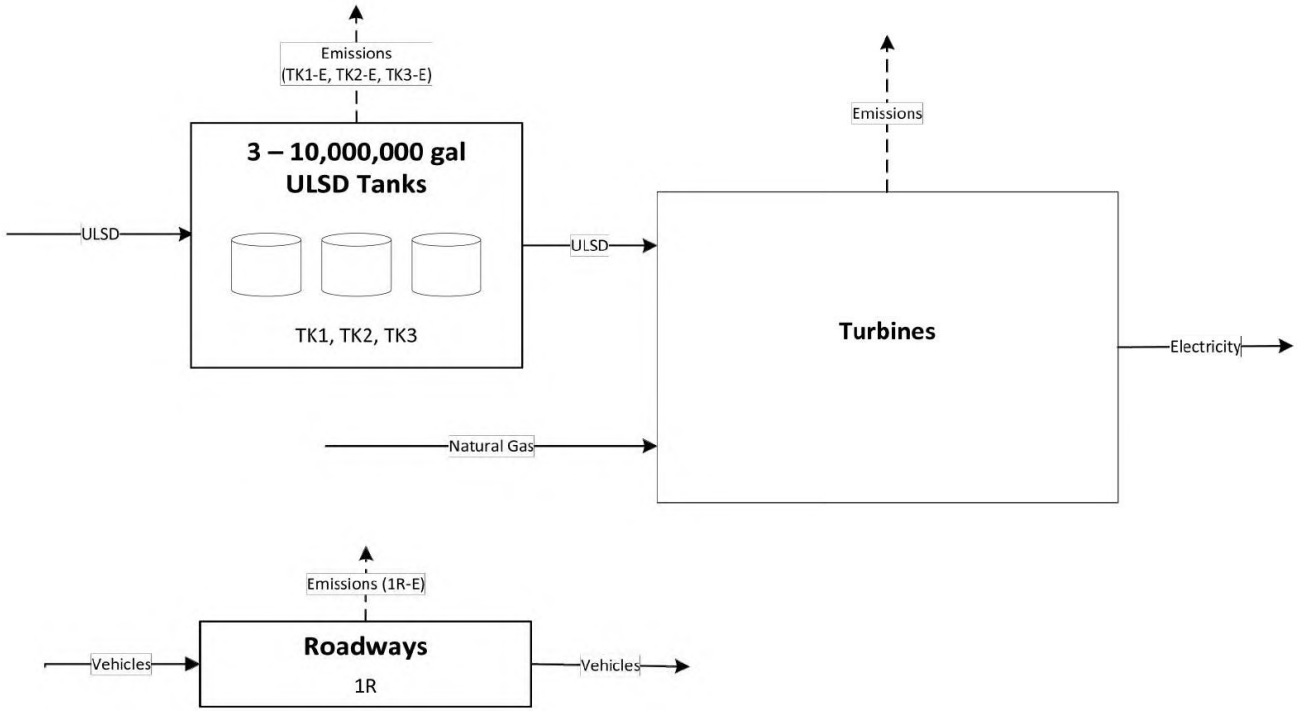
RIDGELINE

No.	REVISIONS	Date
1	ORIGINAL	02.25.26
2	REVISION 1	03.10.26
3	REVISION 2	03.17.26
4		
5		
6		
7		
8		
9		
10		

Design: MN
Drawn: HMP
Checked: MN
Job #:
Scale: 1" = 50'
Sheet: 3 of 3

ATTACHMENT F

PROCESS FLOW DIAGRAM



Civil & Environmental Consultants, Inc.
700 Cherrington Parkway
Moon Township, PA 15108
Ph: 412.429.2324 · 800.365.2324
www.cecinc.com

DRAWN BY:	TAF	CHECKED BY:	CNS	APPR
DATE:	03/18/2025	DWG SCALE:	NTS	PROJ

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

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) × 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: 1	UNBOLTED COVER, UNGASKETED:

AUTOMATIC GAUGE FLOAT WELL		
BOLT COVER, GASKETED: 1	UNBOLTED COVER, GASKETED:	UNBOLTED COVER, UNGASKETED:

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: 1	PIPE COLUMN – SLIDING COVER, UNGASKETED:

GAUGE-HATCH/SAMPLE PORT	
SLIDING COVER, GASKETED: 1 – Weighted Mechanical Actuation, Gasketed	SLIDING COVER, UNGASKETED:

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

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.)

I =	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*

~~$E = 0.077 \times I \times (4 \div n) \times (s \div 10) \times (L \div 1000) \times (W \div 3)^{0.7}$~~ = 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

I =	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)

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

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

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

Pollutant	[redacted]	Total Restricted Turbine Emissions	Turbine Startup/Shutdown Emissions	Diesel Tank 1	Diesel Tar
				TK1	TK2
Oxides of Nitrogen		94.43	4.54	--	--
Carbon Monoxide		19.32	37.05	--	--
Sulfur Dioxide		58.89	--	--	--
PM		95.35	--	--	--
PM_{10}		71.44	--	--	--
$PM_{2.5}$		71.44	--	--	--
VOC		43.84	--	0.03	0.03
Formaldehyde		3.86	--	--	--
Total HAPs		9.33	--	0.03	0.03
Carbon Dioxide		2,047,505.46	--	--	--
Methane		148.97	--	--	--
Nitrous Oxide		0.03	--	--	--
Lead		--	--	--	--
CO_2e		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.

Pollutant	[redacted]	Total Turbine Emissions	Diesel Tank 1	Diesel Tank 2	Diesel Tank 3
			TK1	TK2	TK3
Oxides of Nitrogen		74.50	--	--	--
Carbon Monoxide		5.40	--	--	--
Sulfur Dioxide		6.82	--	--	--
PM		44.20	--	--	--
PM_{10}		22.10	--	--	--
$PM_{2.5}$		22.10	--	--	--
VOC		30.90	0.01	0.01	0.01
Formaldehyde		1.26	--	--	--
Total HAPs		5.64	0.01	0.01	0.01
Carbon Dioxide		744,890.00	--	--	--
Methane		0.29	--	--	--
Nitrous Oxide		0.06	--	--	--
Lead		0.06	--	--	--
CO_2e		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
				TK1	TK2
Oxides of Nitrogen		93.13	6.22	--	--
Carbon Monoxide		6.75	46.10	--	--
Sulfur Dioxide		8.53	--	--	--
PM		55.25	--	--	--
PM_{10}		27.63	--	--	--
$PM_{2.5}$		27.63	--	--	--
VOC		38.63	--	0.03	0.03
Formaldehyde		1.58	--	--	--
Total HAPs		7.05	--	0.03	0.03
Carbon Dioxide		931,112.50	--	--	--
Methane		0.36	--	--	--
Nitrous Oxide		0.07	--	--	--
Lead		0.08	--	--	--
CO_2e		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.

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

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.

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 Emi			
	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)	Decl Lo (l
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	8.0
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	8.0
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	8.0

Annual Emissions[1,2,3]

Pollutant	Single Tank Annual Emission Rates						Total Tanks Annual Em			
	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)	Decl Lo (to
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	3.5
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	3.5
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	3.5

[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.

$E = [k (sL)^{0.91} * (W)^{1.02}](1-P/4N)$	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

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.

2. Draft Permit

West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Construction Permit

R13-3713

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

Fundamental Data LLC
Ridgeline Facility
093-00034

Laura M. Crowder
Director, Division of Air Quality

Issued: Draft

Facility Location:	Off of US-48, Thomas, Tucker County, West Virginia
Mailing Address:	125 Hirst Rd. Suite 1A, Purcellville, VA 20132
Facility Description:	Turbine Power Facility
NAICS Codes:	221112 – Fossil Fuel Electric Power Generation
UTM Coordinates:	632.512 km Easting • 4,334.946 km Northing • Zone 17
Latitude/Longitude:	39.15364 / -79.46641
Permit Type:	Construction
Description of Change:	Construction and operation of a turbine power facility.

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

The source is not subject to 45CSR30.

Table of Contents

1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
CT	CT	Combustion Turbines	2025	Natural Gas 5,649.6 MMBtu/hr (aggregate) Diesel 4,503.4 MMBtu/hr (aggregate)	NOx – SCR[1] CO -CO Catalyst
TK1	TK1-E	Diesel Storage Tank	2025	10,000,000 gal (nominal[2])	None
TK2	TK2-E	Diesel Storage Tank	2025	10,000,000 gal (nominal[2])	None
TK3	TK3-E	Diesel Storage Tank	2025	10,000,000 gal (nominal[2])	None
UNLOAD	UNLOAD-E	Diesel Truck Unloading	2025	15,000,000 gal/yr	None

[1] Selective Catalytic Reduction
[2] Nominal capacity is “working volume” which considers design liquid levels

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NOx**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission Monitor	**PM**	Particulate Matter
CES	Certified Emission Statement	**$PM_{2.5}$**	Particulate Matter less than 2.5 μm in diameter
C.F.R. *or* CFR	Code of Federal Regulations	**PM_{10}**	Particulate Matter less than 10μm in diameter
CO	Carbon Monoxide	**Ppb**	Pounds per Batch
C.S.R. *or* CSR	Codes of State Rules	**Pph**	Pounds per Hour
DAQ	Division of Air Quality	**Ppm**	Parts per Million
DEP	Department of Environmental Protection	**Ppmv or ppmv**	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	**PSD**	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	**Psi**	Pounds per Square Inch
HAP	Hazardous Air Pollutant	**SIC**	Standard Industrial Classification
HON	Hazardous Organic NESHAP	**SIP**	State Implementation Plan
HP	Horsepower	**SO_2**	Sulfur Dioxide
lbs/hr	Pounds per Hour	**TAP**	Toxic Air Pollutant
LDAR	Leak Detection and Repair	**TPY**	Tons per Year
M	Thousand	**TRS**	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	**TSP**	Total Suspended Particulate
MDHI	Maximum Design Heat Input	**USEPA**	United States Environmental Protection Agency
MM	Million	**UTM**	Universal Transverse Mercator
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**VEE**	Visual Emissions Evaluation
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour	**VOC**	Volatile Organic Compounds
NA	Not Applicable	**VOL**	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*;

2.4. Term and Renewal

2.4.1. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3713 and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.10 and -10.3.]

2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

2.12. *[Reserved]*

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety,

or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1.]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]

3.1.4. **Odor.** 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.
[45CSR§4-3.1] ***[State Enforceable Only]***

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

3.2.1. **Emission Limit Averaging Time**. Unless otherwise specified, compliance with all annual limits shall be based on a rolling twelve month total. A rolling twelve month total shall be the sum of the measured parameter of the previous twelve calendar months. Compliance with all hourly emission limits shall be based on the applicable NAAQS averaging times or, where applicable, as given in any approved performance test method.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State Enforceable Only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by email as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

US EPA:
Section Chief, USEPA, Region III
Enforcement and Compliance Assurance Division
Air Section (3ED21)
Four Penn Center
1600 John F Kennedy Blvd
Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement[1]:
DEPAirQualityReports@wv.gov

[1]For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status Reports, Initial Notifications, etc.

3.5.4. **Operating Fee**

3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.4.2. In accordance with 45CSR22 – Air Quality Management Fee Program, enclosed with this permit is an Application for a Certificate to Operate (CTO). The CTO will cover the time period beginning with the date of initial startup through the following June 30. Said application and the appropriate fee shall be submitted to this office prior to the date of initial startup. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with Section 4.5 of 45CSR22. A copy of this schedule may be found on the reverse side of the CTO application.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. The Ridgeline Facility shall consist of only the pollutant-emitting equipment and processes identified under Section 1.0 of this permit. In accordance with the information filed under Permit Application R13-3713, the equipment shall be installed, maintained and operated so as to minimize any fugitive escape of pollutants and the equipment/processes shall use the specified air pollution control devices.

4.1.2. **Maximum Design Heat Input.** The aggregate maximum design heat input (MDHI) of the combustion turbines/heat recovery steam generating units (HRSG) shall not be exceeded when firing the following fuels:

Fuel Type	MDHI (MMBtu/hr)
Natural Gas	5,649.6
Diesel Fuel	4,503.4

4.1.3. The maximum aggregate hourly emissions during steady state operations (excluding startups and shutdowns) from the combustion turbines/HRSG shall not exceed the following when firing the following fuels:

a. Natural Gas

Pollutant	Maximum Hourly Emissions (lb/hr)[2]
Nitrogen Oxides	30.80
Carbon Monoxide	6.30
Volatile Organic Compounds	14.30
Particulate Matter-10/2.5[1]	23.30
Sulfur Dioxide	19.21
Total Hazardous Air Pollutants	3.04

[1] Includes both filterable and condensable particulate matter.
[2] CT shall have zero duct burner firing emissions. All emissions are attributed to CT only.

b. Diesel

Pollutant	Maximum Hourly Emissions (lb/hr)[2]
Nitrogen Oxides	74.50
Carbon Monoxide	5.40
Volatile Organic Compounds	30.90
Particulate Matter-10/2.5[1]	22.10
Sulfur Dioxide	6.82
Total Hazardous Air Pollutants	5.64

[1] Includes both filterable and condensable particulate matter.
[2] CT shall have zero duct burner firing emissions. All emissions are attributed to CT only.

4.1.4. The maximum aggregate annual emissions during startups and shutdowns from the combustion turbines/HRSG shall not exceed the following when firing the following fuels:

a. Natural Gas

Pollutant[1]	Maximum Annual Emissions (tons/year)
Nitrogen Oxides	4.54
Carbon Monoxide	37.05

[1] Pollutants not listed in this table are limited to the rates in permit conditions 4.1.3 and 4.1.5 at all times including startups and shutdowns.

b. Diesel

Pollutant[1]	Maximum Annual Emissions (tons/year)
Nitrogen Oxides	6.22
Carbon Monoxide	46.10

[1] Pollutants not listed in this table are limited to the rates in permit conditions 4.1.3 and 4.1.5 at all times including startups and shutdowns.

4.1.5. The maximum aggregate total annual emissions[1] from the combustion turbines/HRSG shall not exceed the following emission limits when firing either fuel (natural gas or diesel exclusively) or any combination of natural gas or diesel:

Pollutant	Maximum Annual Emissions (tons/year)[3]
Nitrogen Oxides	99.35
Carbon Monoxide	56.36
Volatile Organic Compounds	43.84
Particulate Matter-10/2.5[2]	71.44
Sulfur Dioxide	58.89
Total Hazardous Air Pollutants	9.33

[1] Includes annual startup and shutdown emissions in permit condition 4.1.4.
[2] Includes both filterable and condensable particulate matter.
[3] CT has no duct burner firing emissions. All emissions are attributed to CT only.

4.1.6. The permittee shall meet the air pollution control technology requirements for the combustion turbines/HRSG:

Pollutant	Control Technology
Nitrogen Oxides	SCR
Carbon Monoxide	CO Catalyst

4.1.7. During startup and shutdown operations, the permittee shall minimize emissions by:

a. Operating and maintaining the combustion turbines/HRSG and associated air pollution control devices in accordance with good combustion and air pollution control practices, safe operating practices, and protection of the facility. Good combustion and air pollution control practices shall mean proper operation and maintenance of combustion control systems and air pollution control equipment in accordance with manufacturer specifications. Additionally, it shall mean such practices that promote sufficient residence time of fuel in the combustion zone, thorough mixing of air and fuel, and proper combustion temperatures.

b. Implementing operations and maintenance practices comprised of maintaining a high level of steady state operation time and minimizing (as much as practicable) the frequency of startup and shutdown events.

4.1.8. **Fuel Operating Parameters.** The combustion turbines/HRSG at the facility are capable of firing either natural gas or diesel fuel. The following fuel operating parameters apply to the permittee to address the various fuel firing scenarios:

Fuel Type	Operating Condition	Operating Parameter
Natural Gas	Maximum Hourly Fuel Consumption	5.35 MMscfh (all units)
Diesel	Maximum Hourly Fuel Consumption	32,872 gal/hr (all units)
	Sulfur Content	15 ppm (ULSD)

4.1.9. **Annual Operational Limitation.**

a. The operating hours of each combustion turbine/HRSG, the throughput of each type of fuel (natural gas/diesel), and operation type (steady state or startup/shutdown) will be continuously monitored and recorded. The permittee will keep records of the fuel consumption (natural gas/diesel), and operating hours (natural gas/diesel) for each combustion turbine/HRSG. The 12-month rolling sum of emissions will be calculated monthly in accordance with permit condition 4.4.1.

b. Natural gas and diesel fuel meters shall be installed on each combustion turbine/HSRG.

c. Operational hour meters shall be installed on each combustion turbine/HSRG.

4.1.10. In order to minimize NOx emissions, within 180 days of startup, the permittee shall determine the optimal injection rate of aqueous ammonia into each SCR. The permittee shall then operate the SCR at the determined optimal injection rate.

4.1.11. Emissions of NOx from each of the combustion turbines/HRSG shall not exceed one of the following when firing natural gas:

a. 25 ppm at 15% O_2; or

b. 1.2 lb/MW-hr gross energy output.
[40 CFR §60.4320]

4.1.12. Emissions of NOx from each of the combustion turbines/HRSG shall not exceed one of the following when firing diesel fuel:

a. 74 ppm at 15% O_2; or

b. 3.6 lb/MW-hr gross energy output.
[40 CFR §60.4320]

4.1.13. Each combustion turbine/HRSG shall meet one of the following requirements:

a. The permittee shall not cause to be discharged into the atmosphere from the subject stationary combustion turbine any gases which contain SO_2 in excess of 110 nanograms per Joule (ng/J) (0.90 pounds per megawatt-hour (lb/MWh) gross output; or

b. The permittee must not burn in the subject stationary combustion turbine any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (0.060 lb SO2/MMBtu) heat input.
[40 CFR §60.4330(a)]

4.1.14. The combustion turbines/HRSG shall use the air pollution control devices specified in Section 1.0 and permit condition 4.1.6 and identified in Permit Application R13-3713 at all times when in operation except during periods of startup and shutdown when operating temperatures do not allow for proper use of the air pollution control devices.

4.1.15. The maximum annual throughput of diesel fuel to the storage tanks shall not exceed the following:

Storage Tank ID	Nominal Capacity (gal)	Product Stored	Maximum Annual Throughput (gal/yr)
TK1, TK2, TK3	10,000,000 (each)	Diesel Fuel	15,000,000 (all tanks)

4.1.16. The storage tanks (TK1, TK2, TK3) shall be designed and operated as specified in the paragraphs (a) through (c).

a. The cover and all openings on the cover (e.g., access hatches, sampling ports, pressure relief valves and gauge wells) shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel.

b. Each cover opening shall be secured in a closed, sealed position (e.g., covered by a gasketed lid or cap) whenever material is in the unit on which the cover is installed except during those times when it is necessary to use an opening as follows:

(i) To add material to, or remove material from the unit (this includes openings necessary to equalize or balance the internal pressure of the unit following changes in the level of the material in the unit);

(ii) To inspect or sample the material in the unit; or

(iii) To inspect, maintain, repair, or replace equipment located inside the unit.

c. The storage tanks (TK1, TK2, TK3) thief hatch shall be weighted and properly seated. **[45CSR§13-5.10]**

4.1.17. The permittee shall comply with all applicable provisions of 45 CSR 17 to minimize fugitive particulate matter emissions on the plant roads.

4.1.18. The permittee shall comply with the alternative applicable provisions of 45 CSR 40 Section 6.6.

a. The permittee shall conduct initial performance testing as required by 40 CFR 60 Subpart KKKK, as prescribed in permit condition 4.3.2.

b. The permittee shall continuously monitor the parameters of the SCR systems to verify proper operation as required in permit conditions 4.2.4 and 4.4.3.

c. The permittee shall continuously monitor and record the amount of each type of fuel to determine the heat input of each combustion turbine. The total monthly heat input will be determined using the monitored fuel data.

d. The permittee will calculate the total monthly NOx emissions for each month during the ozone season. The total NOx mass emissions will be calculated for the ozone season each year. Ozone season is defined as May 1 through September 30 in the same calendar year.

4.1.19. The permittee shall comply with all applicable provisions of 45 CSR 33 (Acid Rain Provisions and Permits), 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), 40 CFR 72 (Permits Regulation – Acid Rain Program), and 40 CFR 97 Subpart DDDDD (Federal NOx Budget Trading Program, CAIR NOx and SO_2 Trading Programs, CSAPR NOx and SO_2 Trading Programs, and Texas SO_2 Trading Program).

If it is determined that 45 CSR 33 and 40 CFR 72 applies, the permittee is required to submit applications for an Acid Rain permit and a 45 CSR 30 permit. These permit types are independent of the 45 CSR 13 permitting process.

4.1.20. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10]

4.1.21. The permittee shall install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to minimize any fugitive escape of regulated air pollutants (leak). Any above-ground piping, valves, pumps, etc. that shows signs of excess wear that have a reasonable potential for fugitive emissions of regulated air pollutants shall be repaired or replaced.
[45CSR§13-5.10]

4.2. Monitoring Requirements

4.2.1. To determine compliance with permit conditions 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, and 4.1.9, the permittee shall monitor the operation type (steady state or startup/shutdown), number of startup/shutdown events, and hours of operation in each operating mode (natural gas/diesel) on a daily basis.

4.2.2. To demonstrate compliance with permit condition 4.1.8, the permittee shall monitor aggregate fuel consumption (natural gas/diesel) on a daily basis.

4.2.3. To demonstrate compliance with permit conditions 4.1.10 and 4.1.14, the permittee shall monitor the operating times for the SCR on at least an hourly basis.

4.2.4. The permittee will install SCR systems on each turbine to control NOx emissions. The parameters of the SCR systems must be continuously monitored to verify proper operation. The permittee shall monitor each catalyst bed inlet temperature and pressure differential across each catalyst bed to indicate proper operation. **[40CFR§60.4340(b)(iii)]**

4.2.5. The permittee will install a CO catalyst on each turbine to control CO emissions. The CO catalyst shall be continuously monitored to verify proper operation. The permittee shall operate the CO catalyst in accordance with manufacturer specifications. **[45CSR§13-5.10]**

4.2.6. To demonstrate compliance with permit condition 4.1.15, the permittee shall monitor diesel fuel unloading throughput on a daily basis.

4.2.7. To demonstrate compliance with permit condition 4.1.17, the permittee shall conduct a visible inspection of the paved roads once each operating day to ensure no fugitive particulate matter emissions from diesel truck and employee traffic are generated. If necessary, roads will be swept and/or watered to minimize fugitive particulate matter.

4.2.8. The permittee shall, at the time of initial startup, maintain on-site and have readily available to be made available to the Director or his/her representative upon request, a copy of all current vendor guarantees relevant to the air emissions associated with the facility. This includes information relating to the performance of both emission units and air pollution control devices.

4.2.9. The permittee shall meet all applicable requirements, including those not specified above, as given under 45 CSR 4, 45 CSR 13, 45 CSR 16, 45 CSR 17, 45 CSR 22, 45 CSR 40, and 40 CFR 60, Subpart KKKK. Any final revisions made to the above rules will, where applicable, supercede those specifically cited in this permit.

4.2.10. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

4.3. Testing Requirements

4.3.1. See Facility-Wide Testing Requirements Section 3.3.

4.3.2. The permittee shall perform an initial performance test for NOx emissions as required under §60.8 and §60.4400, and to demonstrate compliance with permit condition 4.1.3 (compliance demonstration is on a per combustion turbine basis). 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.

4.3.3. The permittee shall perform an initial performance test for SO_2 emissions as required under §60.8 and §60.4415, and to demonstrate compliance with permit condition 4.1.3 (compliance demonstration is on a per combustion turbine basis). 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.

4.3.4. The permittee shall perform an initial performance test for CO emissions to demonstrate compliance with permit condition 4.1.3 (compliance demonstration is on a per combustion turbine basis). 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. A representative number of combustion turbines will be tested as approved in the stack test protocol as required in permit condition 3.3.1.c.

The permittee shall utilize Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyzer Procedure) or approved alternative procedure outlined in permit condition 3.3.1 to comply with this permit condition.
[45CSR§13-5.10]

4.4. Recordkeeping Requirements

4.4.1. To determine compliance with permit conditions 4.1.5, 4.1.8, and 4.1.9, the permittee shall keep records of the operating hours of each combustion turbine/HRSG, the throughput of each type of fuel (natural gas/diesel), and operation type (steady state or startup/shutdown) on a daily basis. The permittee shall multiply the hourly steady state operation emissions in permit condition 4.1.3 by the number of hours of steady state operations and adding the appropriate startup and shutdown emission from permit condition 4.1.4. The permittee shall calculate the emissions monthly and on a twelve-month rolling total. A twelve-month rolling total shall mean the sum of emissions at any given time during the previous twelve consecutive calendar months.

4.4.2. To determine compliance with permit condition 4.1.2, the permittee shall keep a verifiable record of the total MDHI of the combustion turbines.

4.4.3. To determine compliance with permit condition 4.2.4, the permittee shall keep records of the SCR continuous monitoring data, and 4-hour rolling unit operating hour averages of the monitored parameters. The permittee will develop an SCR monitoring plan that will outline the procedures used to document proper operation of the SCR systems in accordance with §60.4355. The SCR monitoring plan must include the following:

a. Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NOx emission controls;

b. Select ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established;

c. Explain the process used to make certain that the data that is obtained is representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable);

d. Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data;

e. Describe the frequency of monitoring and the data collection procedures which are used; and

f. Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, the differences must be explained.

[40CFR§60.4355]

4.4.4. To determine compliance with §60.4365(a), the permittee shall keep records of the fuel characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying the following parameters:

a. The maximum total sulfur content of oil is 0.05 weight percent (500 ppmw) or less.

b. The total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet.

c. Potential sulfur emissions are less than 0.060 pounds SO_2/million Btu heat input.

4.4.5. To determine compliance with permit condition 4.2.7, the permittee shall keep records of the daily road particulate matter fugitive inspections and any corrective actions taken.

4.4.6. To determine compliance with permit conditions 4.1.15 and 4.2.6, the permittee shall keep records of the diesel unloading on a daily basis. Compliance with the throughput limit shall be determined on a 12 month rolling total basis.

4.4.7. To demonstrate compliance with permit condition 4.1.21, the permittee shall keep records of the fugitive emissions components repairs and replacements.

4.5. Reporting Requirements

4.5.1. See Facility-Wide Reporting Requirements Section 3.5.

4.5.2. The permittee shall submit notifications of the date construction commences, the actual date of initial startup as required under §60.7.

4.5.3. The permittee shall submit the results of the combustion turbines initial performance test before the close of business on the 60th day following the completion of the performance tests.

4.5.4. The permittee shall report excess emissions and monitor downtime semi-annually, in accordance with §60.4375(a) and §60.7(c). Excess emissions will be reported for all periods of unit operation, including startup, 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.

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] (please use blue ink) _____ Responsible Official or Authorized Representative _____ Date

Name & Title (please print or type) _____ Name _____ Title

Telephone No. _____ Fax No. _____

[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.

3. Engineering Evaluation

west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Harold D. Ward, Cabinet Secretary
dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3713
Plant ID No.:	093-00034
Applicant:	Fundamental Data LLC
Facility Name:	Ridgeline Facility
Location	Thomas, Tucker County
NAICS Code:	221112 – Fossil Fuel Electric Power Generation
Application Type:	Construction
Received Date:	March 18, 2025
Engineer Assigned:	Jerry Williams
Fee Amount:	$2,000 ($1,000 45 CSR 13 Application Fee, $1,000 NSPS Fee)
Date Received:	March 31, 2025
Complete Date:	April 9, 2025
Hold Date Start/Stop:	April 25, 2025/May 7, 2025 (Request for additional information)
Due Date:	July 20, 2025
Applicant Ad Date:	March 26, 2025
Newspaper	*The Parsons Advocate*
UTM's:	Easting: 632.512 km Northing: 4,334.946 km Zone: 17
Latitude/Longitude:	39.15364 / -79.46641
Description:	Construction and operation of a turbine power facility.

CONFIDENTIAL BUSINESS INFORMATION OVERVIEW

Fundamental Data LLC (Fundamental) submitted an air permit application for a turbine power facility to be located near Thomas and Davis in Tucker County. This permit application included confidential business information (CBI) submitted under 45 CSR 31, entitled "Confidential Information". Therefore, both a CBI and redacted version of the application were submitted. Fundamental provided all CBI under the requirements of 45 CSR 31, which is the Division of Air Quality (DAQ) regulation that establishes the requirements for claiming information submitted to the DAQ as confidential and the procedures for determinations of confidentiality in accordance with the provisions of W. Va. Code §22-5-10.

The reason for the CBI submittal according to Fundamental is that the application contains information regarding the configuration of the proposed facility as well as confidential technical information related to the combustion turbines and control device manufacturer. For each submission of information any portion of which is claimed to be confidential, a complete set of the information, including the document justifying the claim of confidentiality shall be submitted simultaneously on uncolored paper with the information claimed to be confidential blacked out, and with the words "redacted copy – claim of confidentiality" marked clearly on each such page, so that such a set of information is suitable for public disclosure and provides notice to the public that a claim of confidentiality has been made. The DAQ allows for electronic submittals (via email) of redacted permit applications. However, all CBI applications must be submitted via mail or hand delivered. During the Notice of Application period, the DAQ received hundreds of public comments concerning the proposed project, many of which specifically requested the release of information that has been redacted.

As stated in 45 CSR 31, Section 4, during the course of the DAQ's review of whether the information claimed to be confidential is a trade secret in accordance with this rule, the DAQ considered the following:

- The claim of confidentiality has not expired by its terms, nor been waived or withdrawn;
- The person asserting the claim of confidentiality has satisfactorily shown that it has taken reasonable measures to protect the confidentiality of the information, and that it intends to continue to take such measures;
- The information claimed confidential is not, and has not been, reasonably obtainable without the person's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding);
- No statute specifically requires disclosure of the information; and
- Either the person has satisfactorily shown that disclosure of the information is likely to cause substantial harm to the business's competitive position or the information is voluntarily submitted information, and its disclosure would likely to impair the State's ability to obtain necessary information in the future.

Additionally, 45 CSR 31, Section 6, states that no person shall claim as confidential, information concerning the types and amounts of pollutants discharged. "Types and amounts of air pollutants discharged" is defined in 45 CSR 31 Section 2.4. Furthermore, 45 CSR 31B entitled "Confidential Business Information and Emission Data" is an interpretive rule that provides guidance and clarification concerning the term "types and amounts of air pollutants discharged" defined under 45CSR§31-2.4, the

DAQ's legislative rule entitled "Confidential Information," and thus what information may not be claimed confidential in accordance with 45CSR§31-6.

The public comments received during the Notice of Application comment period triggered a review of the CBI claims by the DEP's Office of the General Counsel (OGC). A letter dated April 28, 2025, from the OGC was issued to Fundamental that stated that the information claimed as CBI ***may*** not qualify for such designation as it falls under the definition of "Types and Amounts of Pollutants Discharged" as excluded under §45-31-6 as defined under §45-31-2.4 (and further defined under 45 CSR 31B). This letter was made available to the public on the WVDEP Application Xtender (AX) website at that time. There was also concern that the claimed CBI ***may*** not meet the eligibility requirements under §45-31-4.1(b) and 4.1(c). The letter requested further justification that the information claimed as CBI is not defined as "Types and Amounts of Pollutants Discharged" and also does not conflict with the eligibility requirements of §45-31-4.1(b) and 4.1(c). The letter requested a written response within 15 days.

Fundamental provided a response to this request on May 7, 2025. This response was made available to the public on the AX website at that time. As part of this response, Fundamental states that the redacted materials do meet the statutory definition of 'trade secrets', under §45-31-2.3. Additionally, Fundamental's response referenced §45-31B-4.1, which states:

Information or data that is indispensable or essential to determining emissions or location in accordance with subsection 2.3 will be considered emission data and thus nonconfidential, unless there is a readily available non-confidential alternative for determining emissions or location. Where there is no readily available non-confidential alternative, the Secretary may approve non-confidential alternatives through the use of aggregation, categorization, surrogate parameters, emissions monitoring or sampling, or parametric monitoring; provided that such use is consistent with applicable rules and standards and results in a practically enforceable method of determining emissions.

This section specifically states that information that is indispensable or essential for determining emissions or location will be considered emission data and thus non-confidential, ***unless*** there is a readily available non-confidential alternative to make this determination. §45-31B-4.1 allows the WVDEP to approve non-confidential alternatives. These alternatives include aggregation, categorization, surrogate parameters, emissions monitoring or sampling, or parametric monitoring that result in a practically enforceable method of determining emissions from the proposed facility. These aforementioned terms are specifically defined in 45 CSR 31B, section 2.

> *"Aggregation" means the combining of individual elements, such as equipment, units, throughputs or capacities, into one total.*
>
> *"Categorization" means the combining of individual elements, such as materials or chemicals, into one category.*
>
> *"Emissions monitoring and sampling" means real-time monitoring, such as continuous emissions monitors, or statistically valid periodic sampling and monitoring that provides reliable and accurate data on emissions.*

"Parametric monitoring" means combining the use of surrogate parameters and monitoring or sampling.

"Surrogate parameter" means a value that stands in place of throughput, production or some other variable claimed confidential. The term may include an alternative measure of production or throughput or some other production unit that correlates with production or throughput and with emissions. A surrogate parameter must have a simple direct relationship to the value it replaces.

The WVDEP reviewed the response provided by Fundamental and determined that there are non-confidential alternatives. These alternatives include the use of aggregate hours of operation tracking, aggregated heat input limitations, aggregate emission limits, aggregate fuel throughputs, and categorized fuels for the combustion turbines. The permit will establish emissions monitoring and sampling, parametric monitoring, and surrogate parameters that ensure that all applicable rules and standards will be met and will result in practical enforceability in determining emissions.

It was also determined that pursuant to §45-31-4.1(b) and (c), there are not reasonable means to obtain the information claimed CBI by using the publicly available aggregated data. Therefore, WVDEP made the determination that the information that was claimed CBI by Fundamental satisfied the necessary requirements to be deemed CBI and will be maintained as such. A response letter was sent from WVDEP to Fundamental on May 12, 2025, and was made available to the public on the AX website at that time.

The specifically approved non-confidential alternatives can be found in the associated draft permit in the following permit conditions:

Table 1.0	Combustion Turbines (Aggregate Heat Input Limitations (§45-31B-2.1).
4.1.2, 4.2.1, 4.4.2	Combustion Turbines (Aggregate Heat Input Limitations (§45-31B-2.1). Monitoring of operation type, startup/shutdown events, and hours of operation on a daily basis is required.
4.1.3, 4.2.1	Aggregate and categorized (fuel type) hourly combustion turbines emission limitations (§45-31B-2.1, 2.2, 2.4, 2.5). Monitoring of operation type, startup/shutdown events, and hours of operation on a daily basis is required.
4.1.5, 4.2.1, 4.4.1	Aggregate and categorized (fuel type) annual combustion turbines emission limitations (§45-31B-2.1, 2.2, 2.4, 2.5). Monitoring of operation type, startup/shutdown events, and hours of operation on a daily basis is required.
4.1.8, 4.2.2, 4.4.1	Aggregate and categorized (fuel type) operating parameters (§45-31B-2.1, 2.2, 2.4, 2.5). Monitoring of maximum natural gas hourly fuel consumption, diesel fuel hourly consumption, and diesel fuel sulfur content on a daily basis is required.
4.1.9, 4.2.1, 4.4.1	Emissions monitoring of the combustion turbines to validate emissions data (§45-31B-2.1, 2.2, 2.4).

It is important to note that 45 CSR 31B applies to all information submitted to the WVDEP, regardless of the regulatory context, and includes, but is not limited to, information submitted in the permitting, enforcement, and emission inventory contexts.

This engineering evaluation/fact sheet (EE/FS) contains only the information that was provided in the redacted version of the permit application. Furthermore, the information contained herein is more than adequate to make the appropriate permitting determinations and can be used to determine compliance with all applicable rules and regulations. This includes all necessary monitoring, recordkeeping, reporting, and testing that will be required as part of the proposed draft permit.

DESCRIPTION OF PROCESS

The proposed station will be powered via combustion turbines equipped with heat recovery steam generators (HRSG) which generate steam by using the heat present in the turbine exhaust gas. The HRSG units are designed where the turbine exhaust will pass through, and no additional firing emissions occur as a result of the HRSG units. This process has been designed to ensure that no duct burners are required as part of the HRSGs. The permit states that there shall be zero duct burner firing emissions. The turbines will be equipped with selective catalytic reduction (SCR) and carbon monoxide (CO) catalyst systems. SCR and oxidation catalysts are emission control technologies that reduce nitrogen oxides (NOx) and CO emissions.

SCR systems function by injecting ammonia into the combustion turbine exhaust stream. This injection reacts with NOx to convert into nitrogen (N_2), water (H_2O) and carbon dioxide (CO_2). An oxidation catalyst functions by facilitating chemical reactions. The oxidation process occurs as exhaust gases flow through the catalyst which converts CO and hydrocarbons into CO_2 and H_2O. In addition to the aforementioned emissions reductions, oxidation catalysts improve fuel efficiency which results in a reduction of particulates.

The turbines will primarily use natural gas as fuel. However, the turbines will also be permitted 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. To avoid designation as a Prevention of Significant Deterioration (PSD) and/or Title V facility, the proposed facility will restrict turbine operations as discussed below.

Fundamental is proposing to be permitted as a synthetic minor facility. 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 the permitted minor 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. Pages 57 and 58 of Attachment N of the permit application are provided for illustrative purposes to represent the potential emissions from the proposed facility while combusting natural gas and/or diesel under operational limitations to remain below PSD and Title V permitting thresholds. The hourly values are represented for each fuel source and indicate the worst case operating hours when combusting either fuel on a continuous twelve month basis and does not take into account that the proposed facility intends to utilize diesel as a backup fuel source.

Additional emission sources at the proposed facility will include a paved roadway, three (3) - 10,000,000-gallon diesel storage tanks, and associated truck loading of the diesel fuel. The proposed facility will also have storage tanks for well water. The well water tanks 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.

This proposed facility shall consist of only the pollutant-emitting equipment and processes identified under Section 1.0 of the associated permit. In accordance with the information filed under Permit Application R13-3713, the equipment shall be installed, maintained and operated so as to minimize any fugitive escape of pollutants and the equipment/processes shall use the specified air pollution control devices. Additionally, the permit will require Fundamental to install, maintain, and operate all above-ground piping, valves, pumps, etc. that service lines in the transport of potential sources of regulated air pollutants to minimize any fugitive escape of regulated air pollutants (leak). Any above-ground piping, valves, pumps, etc. that shows signs of excess wear that have a reasonable potential for fugitive emissions of regulated air pollutants shall be repaired or replaced.

ADDITIONAL BACKGROUND INFORMATION

Data Center

Due to potential misinformation that has been circulated, it should be stated that Permit Application R13-3713 ***did not*** include a data center and was not definitive on the ultimate end user of the power that will be generated from the proposed site. The non-disclosure of the final end use of the power generated is not a cause for denial of the permit. How the power is used will have an impact on the need for Fundamental to potentially be required to obtain an Acid Rain Permit (45 CSR 33) and a Title V Permit (45 CSR 30). However, the process of applying for and receiving an Acid Rain or Title V Permit is independent of the 45 CSR 13 permitting process. These potential requirements are outlined in permit condition 4.1.19 and the regulatory applicability is discussed in the REGULATORY APPLICABILITY section of this document.

House Bill 2014 (HB 2014)

It is important to note that HB 2014 does not impact the 45 CSR 13 permitting process. HB 2014 known as the "Power Generation and Consumption Act of 2025" established the Certified Microgrid Program under the Division of Economic Development to encourage the continued development, construction, operation, maintenance, and expansion in West Virginia of high impact industrial plants and facilities, in certain circumstances where the availability of electricity generated from renewable sources is demonstrated to be necessary. HB 2014 also allows for the certification of high impact data centers, prohibits certain tax arrangements, and provides special valuation for these properties. HB 2014 also states the standards for certifying microgrid districts while highlighting the significance of data centers for economic growth and national security. HB 2014 also creates the Electric Grid Stabilization and Security Fund to establish regulations for certified microgrid districts and high impact data centers. As stated above, Permit Application R13-3713 did not include a data center and was not definitive on the ultimate end user of the power that will be generated from the proposed site. To restate, HB 2014 does not impact the 45 CSR 13 permitting process.

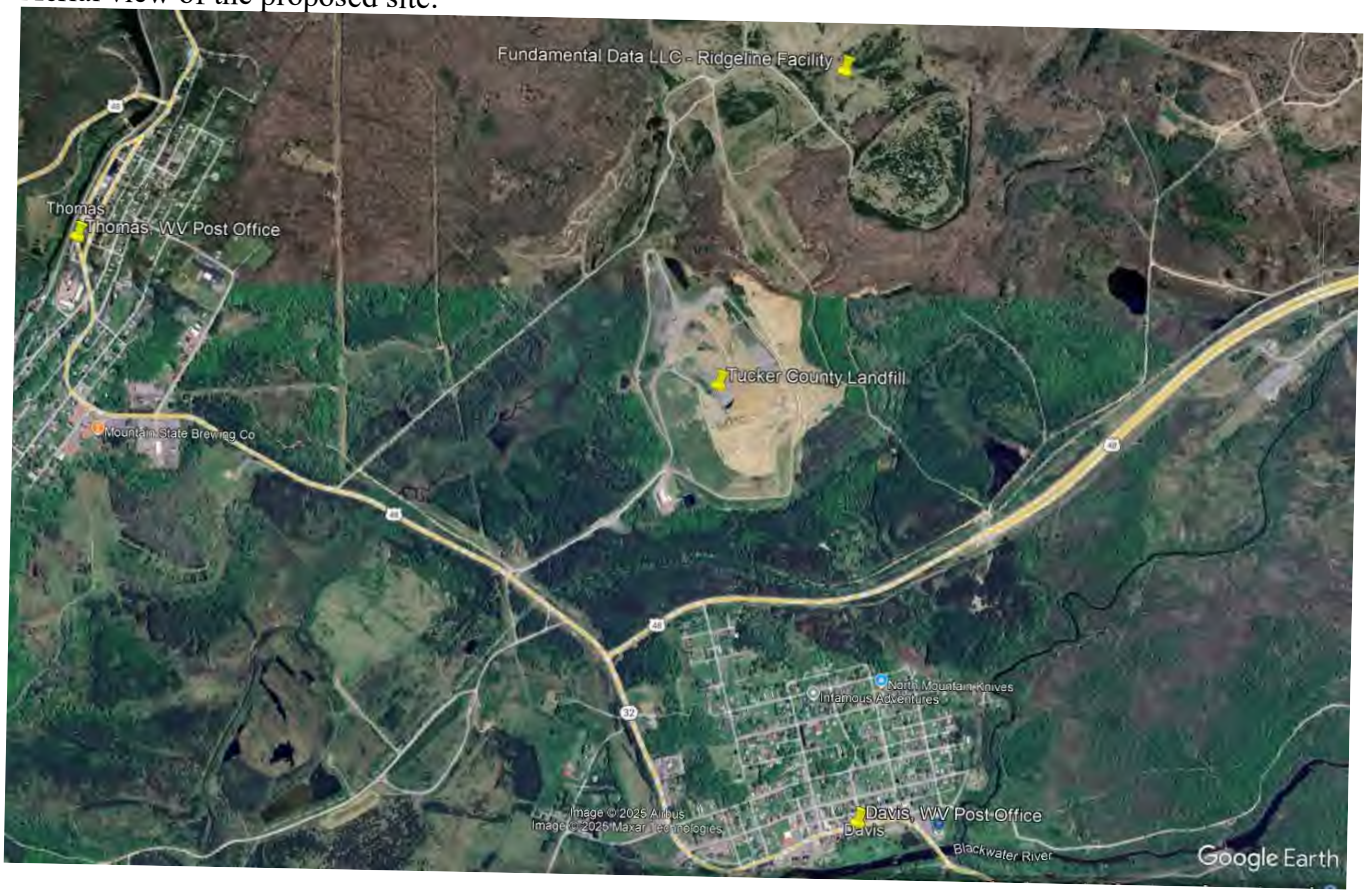
SITE INSPECTION

A site inspection of the proposed location was conducted on April 8, 2025, by the writer and Joe Kessler (NSR Program Manager) of the DAQ. We met with representatives of Fundamental Data and Western Pocahontas Land Company. This is a greenfield site, and no construction or equipment installation was visible at the time of the site inspection. The proposed site is in a remote location approximately 1.5 miles from US-48 that is only accessible by use of a private gate. The site will be located about 0.75 miles north of the Tucker County Landfill and will be situated on a reclaimed coal mine. For reference purposes, the proposed facility is located approximately 1.7 air miles from both the Thomas and Davis United States Post Offices. The closest residence is approximately 1.1 air miles from the proposed facility.

Directions to the site:

From Thomas, head north on Spruce Street toward 3rd Street. Take a sharp left onto US-48. An access road to the proposed facility will be located off of US-48, approximately 0.5 miles east of Thomas. The access road will be on the left. The site is located approximately 1.5 miles after passing through the private gate.

Aerial view of the proposed site:



The map above includes markers for the proposed Fundamental site, the Tucker County Landfill, and the Thomas and Davis United States Post Offices.

The proposed site will be located behind an elevated mound and situated approximately close to the arrow in the photo found below. This permit application review only includes the air quality elements afforded to the DAQ under West Virginia State Code. However, upon viewing the proposed remote location, it is not anticipated that any noise and/or viewshed issues would be encountered.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions associated with this proposed facility consist of the equipment listed in the following table and fugitive emissions.

Emission Unit ID#	Process Equipment	Calculation Methodology
Combustion Turbines	Combustion Turbines NG - 5,650 MMBtu/hr (aggregate) Diesel – 4,503.4 MMBtu/hr (aggregate)	Manufacturer Data (criteria pollutants) EPA AP-42 Emission Factors Chapter 3.1 (HAPs)
TK1 – TK3	3 – Diesel Storage Tanks (10 MM gal each)	EPA TANKS Emissions Estimation Software, Version 5.1
1R	Paved Roadways	EPA AP-42 Emission Factors, Chapter 13.2.1
UNLOAD	Diesel Truck Unloading	EPA AP-42 Emission Factors, Chapter 5.2

The potential emissions from the combustion turbines were estimated using the ability to fire the combustion turbines with natural gas or diesel. The combustion turbines at the proposed facility are capable of firing either fuel. Fundamental has requested that this proposed facility have enforceable emission limits that maintain the source as minor for New Source Review (NSR) and Title V. In order for the proposed facility to be a minor source, the potential emissions for any regulated air pollutant must be less than 100 tons per year. The supporting regulatory discussion can be found in the REGULATORY APPLICABILITY section under 45 CSR 14. Taking this limitation would establish the proposed facility as a synthetic minor for the purposes of PSD and Title V.

It is the intent of Fundamental to operate the combustion turbines solely using natural gas. However, diesel fuel is also being permitted as a backup fuel source if natural gas is not available.

If a combination of natural gas and diesel fuel are utilized to fire the combustion turbines, the total hours of operation will be restricted as needed to remain under the synthetic minor permitting thresholds. The operating hours of each turbine and the throughput of each type of fuel will be continuously monitored and recorded. Fundamental will be required to 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.

The following tables represent the operating conditions associated with the combustion turbines firing the different fuels:

Natural Gas

Operating Condition	Parameter
Hourly Fuel Consumption	5.35 MMscfh (all units)
Maximum Design Heat Input	5,649.6 MMBtu/hr

Diesel

Operating Condition	Parameter
Hourly Fuel Consumption	32,872 gal/hr (all units)
Maximum Design Heat Input	4,503.4 MMBtu/hr
Sulfur Content	15 ppm (ULSD)

The tables on the following page represent the potential aggregate hourly emissions when the combustion turbines are operated in controlled steady state operations firing the different fuels if burning only that fuel source:

Natural Gas

Pollutant	Hourly Emissions (lb/hr)
Nitrogen Oxides	30.80
Carbon Monoxide	6.30
Volatile Organic Compounds	14.30
Particulate Matter-10/2.5	23.30
Sulfur Dioxide	19.21
Total Hazardous Air Pollutants	3.04
Formaldehyde (HAP)	1.26

Diesel

Pollutant	Hourly Emissions (lb/hr)
Nitrogen Oxides	74.50
Carbon Monoxide	5.40
Volatile Organic Compounds	30.90
Particulate Matter-10/2.5	22.10
Sulfur Dioxide	6.82
Total Hazardous Air Pollutants	5.64
Formaldehyde (HAP)	1.26
Manganese (HAP)	3.56

These combustion turbines experience different NOx and CO emissions during startup and shutdown episodes. The following tables represent the potential annual emissions for the combustion turbines during startups and shutdown periods for each fuel type:

Natural Gas

Pollutant	Annual Emissions (tons/year)
Nitrogen Oxides	4.54
Carbon Monoxide	37.05

Diesel

Pollutant	Annual Emissions (tons/year)
Nitrogen Oxides	6.22
Carbon Monoxide	46.10

The following table represents the permitted emission limit for the combustion turbines. This will represent a worst-case scenario for each pollutant when combusting either fuel at its potential hourly emission limitation. Fundamental will be required to continuously monitor and record the hours of operation, fuel throughput, and operation mode for each turbine to show compliance with the annual permitted limits.

Pollutant	Fuel Type	Annual Emissions (tons/year)
Nitrogen Oxides	Diesel	99.35
Carbon Monoxide	Natural Gas	56.36
Volatile Organic Compounds	Natural Gas	43.84
Particulate Matter-10/2.5	Natural Gas	71.44
Sulfur Dioxide	Natural Gas	58.89
Total Hazardous Air Pollutants	Natural Gas	9.33
Formaldehyde (HAP)	Natural Gas	3.86
Manganese (HAP)	Diesel	4.45

The potential emissions for the 3 – 10-million-gallon diesel storage tanks include the losses from working, standing, rim seal, and deck fittings. It has been assumed that the tank rim vents will be open and weighted mechanical actuation, gasketed rim vents will be utilized. The hourly emissions have been averaged over 8,760 hours per year. Due to the very low vapor pressure of diesel fuel (0.005 psia), the emissions associated with the diesel fuel tanks are low. The applicant conservatively estimated that all diesel fuel tank emissions are being counted as HAPs. EPA TANKS 5.1 allows users to enter specific information about a storage tank (dimensions, construction, paint condition, etc.), the liquid contents (chemical components and liquid temperature), and the meteorological conditions and location of the tank (nearest city, ambient temperature, etc.) to generate an air emissions report. Report features include estimates of monthly, annual, or partial year emissions for each chemical or mixture of chemicals stored in the tank. The closest meteorological location available in EPA TANKS 5.1 that was used was Elkins. As stated above, due to the very low vapor pressure of diesel fuel, the emissions associated with the diesel fuel tanks are low. The results of the EPA TANKS 5.1 analysis resulted in the following diesel storage tank emissions:

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (tons/year)
Volatile Organic Compounds	0.20	0.10
Total Hazardous Air Pollutants	0.20	0.10

EPA TANKS 5.1 does allow customization of the meteorological data location. DAQ entered the atmospheric pressure, average minimum and maximum monthly temperatures, and average monthly wind speeds for Thomas, WV into the EPA TANKS 5.1 emission estimation software model to recalculate the emissions based on that location. Upon doing this, the resultant emissions of VOCs and HAPs were estimated to have a value of 0.08366 tons per year. Therefore, utilizing the meteorological data from Thomas in place of Elkins would result in a decrease of VOC and HAP emissions. Additionally, DAQ also estimated the diesel storage tank emissions using Bryan Research & Engineering, LLC ProMax 5.0 (ProMax). ProMax is a versatile process simulation software package that is used to simulate and optimize various processes in the oil and gas, refining, chemical, and sustainable energy sectors. Based upon storage tank data, diesel throughput values, and Thomas, WV weather data, the predicted total VOC emissions for the 3 diesel storage tanks were 0.01233 tons per

year, which is less than the values predicted by EPA TANKS 5.1 using Elkins or Thomas meteorological data. Therefore, the storage tank emission estimates used by Fundamental in permit application R13-3713 were deemed appropriate.

There will also be potential emissions associated with the truck loading of the 3 – 10-million-gallon diesel storage tanks. The estimated aggregate annual total throughput to the diesel tanks is 15 million gallons per year. AP-42, *Compilation of Air Pollutant Emissions Factors from Stationary Sources*, has been published since 1972 and is the primary compilation of EPA's emissions factor information. It contains emissions factors and process information for more than 200 air pollution source categories. A source category is a specific industry sector or group of similar emitting sources. The emissions factors have been developed and compiled from source test data, material balance studies, and engineering estimates. Chapter 5.2 for Transportation and Marketing of Petroleum Liquids is a standard that is commonly utilized to estimate the potential evaporation loss associated with tank truck unloading. The formula that is utilized to calculate the loading loss emission factor utilizes the type of loading performed, otherwise known as the saturation factor, the true vapor pressure of the liquid loaded (psia), the molecular weight (lb-lb/mol) and the temperature (^oR). Due to the very low vapor pressure, the emissions associated with the diesel fuel tanks will only contain very small amounts of HAPs.

$L_L = 12.46 * S * P * M / T$

Where:

- L_L Loading Loss (pounds per 1,000 gallons of liquid loaded)
- S Saturation Factor (Loading Type)
- P True Vapor Pressure of Liquid Loaded (psia)
- M Molecular Weight of Vapors (lb/lb-mole)
- T Temperature of Bulk Liquid Loaded (^{o} R)

Utilizing this formula results in the following diesel storage tank loading emissions.

Pollutant	**Annual Emissions (tons/year)**
Volatile Organic Compounds	0.17
Total Hazardous Air Pollutants	0.17

There are paved haul road activities associated with this facility. The following table indicates the assumptions made in estimating the emissions:

Operating Condition	**Parameter**
Potential Operating Days	365
Estimated Roundtrip Distance per Vehicle	2.99 miles/vehicle
Diesel Trucks per Year	2,308
Vehicle Miles Traveled per Year (Diesel Trucks)	6,909 miles/year
Employee Vehicles per Day	50
Vehicle Miles Traveled per Year (Employee Vehicles)	54,632 miles/year

Using these operating conditions, the potential emissions associated with these haul road operations result in the following:

Pollutant	Hourly Emissions (lb/hr)	Annual Emissions (tons/year)
Particulate Matter	0.48	2.11
Particulate Matter-10	0.10	0.42
Particulate Matter-2.5	0.02	0.10

At the time of application submittal, the fugitive equipment leaks (VOC/HAP) associated with fugitive components (valves, pressure relief valves, connections, flanges, etc.) were estimated to be negligible based upon the potential product leaking being natural gas/diesel and due to the final design of all piping not being finalized. In order to be conservative, it has been assumed that the fugitive equipment leaks (VOC/HAP) associated with this proposed facility would be less than 0.10 tons per year. This is based on industry-wide estimated component counts and utilization of Table 2-8 of EPA's Protocol for Equipment Leak Emission Estimates. The permit does require minimization of fugitive emissions and further requires any above-ground piping, valves, pumps, etc. that shows signs of excess wear that have a reasonable potential for fugitive emissions of regulated air pollutants to be repaired or replaced.
The following table represents the emissions associated with this permit application:

Emission Source	Annual Emissions (tons/year)					
	NO_x	**CO**	**VOC**	**SO_2**	**PM_{10}**	**Total HAPs**
Combustion Turbines	99.35	56.36	43.84	58.89	71.44	9.33
Diesel Storage Tanks	-	-	0.10	-	-	0.10
Diesel Truck Unloading	-	-	0.17	-	-	0.17
Paved Haul roads	-	-	-	-	0.42	-
Fugitive Leaks	-	-	0.10	-	-	0.10
Proposed Facility PTE	**99.35**	**56.36**	**44.21**	**58.89**	**71.86**	**9.70**

REGULATORY APPLICABILITY

The following potential rules may apply to this permit application:

State

45 CSR 2 - Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers ***(not applicable)***

This rule establishes emission limitations for smoke and particulate matter which are discharged from fuel burning units. 45 CSR 2 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions).

The combustion turbines are equipped with HRSG units which generate steam by using the heat present in the turbine exhaust gas. The HRSG units are designed where the turbine exhaust will pass through, and no additional firing emissions occur as a result of the HRSG units. This process has been designed to ensure that no duct burners are required as part of the HRSGs. Therefore, these units would not be considered as fuel burning units and not subject to this rule. To ensure this, the permit states that there shall be zero duct burner firing emissions. The combustion turbines do not meet the definition of a fuel burning unit because they do not produce power through indirect heat transfer.

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

The purpose of this rule is to prevent and control the discharge of pollutants into the open air which causes or contributes to an objectionable odor or odors. This proposed facility would generally be subject to this rule, however, this type of proposed facility normally does not have issues with odors. However, the DAQ will, using the authority under this rule to respond to complaints involving objectionable odors if confirmed while the facility is operating, and may require mitigation at that time to reduce the odor potential of the source. An objectionable odor must be determined by the DAQ in the course of an inspection or investigation of an actual odor, and is possible to prove quantitatively, pursuant to this rule, that an objectionable odor will be present before a facility is in operation.

45 CSR 10 -To Prevent and Control Air Pollution from the Emissions of Sulfur Oxides ***(not applicable)***

This rule establishes emission limitations for sulfur dioxide which are discharged from fuel burning units. 45 CSR 10 states that any fuel burning unit that has a heat input under ten (10) million B.T.U.'s per hour is exempt from sections 3 (weight emission standard), 6 (registration), 7 (permits), and 8 (testing, monitoring, recordkeeping, reporting).

The combustion turbines are equipped with HRSG units which generate steam by using the heat present in the turbine exhaust gas. The HRSG units are designed where the turbine exhaust will pass through, and no additional firing emissions occur as a result of the HRSG units. This process has been designed to ensure that no duct burners are required as part of the HRSGs. Therefore, these units would not be considered as fuel burning units and not subject to this rule. To ensure this, the permit states that there shall be zero duct burner firing emissions. The combustion turbines do not meet the definition of a fuel burning unit because they do not 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, and Procedures for Evaluation

Pursuant to §45-13-5.1, “[n]o person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without . . . obtaining a permit to construct.” Based upon the potential emissions for the facility, Fundamental is required to obtain a permit under 45CSR13 for this facility.

As required under §45-13-8.3 ("Notice Level A"), Fundamental placed a Class I legal advertisement in *The Parsons Advocate* on March 26, 2025. Additionally, Fundamental paid the appropriate application fee of $2,000 ($1,000 45 CSR 13 permit application fee, $1,000 NSPS fee).

Because this permitting action will limit the physical and operational capacity of the proposed facility below major stationary source thresholds (45 CSR 14, 45 CSR 30), Fundamental is subject to Notice Level C in section 8.5 and will be required to place a commercial display advertisement in *The Parsons Advocate* as required in section 8.4.a within one week prior to the placement of the DAQ's Class I legal advertisement of the agency's intent to issue or within three working days of the placement of the advertisement. The commercial display advertisement shall be at least 3 inches by 5 inches and contain at a minimum, the name of the applicant, the type and location of the source, the type and amount of air pollutants that will be discharged, the nature of the permit being sought, the proposed start-up date for the source and a contact telephone number for more information.

Additionally, Fundamental is required to post a visible and accessible sign as required in section 8.5.a, at a minimum of 2 feet square, at the entrance to the proposed site. The sign must be clearly marked indicating that an air quality permit has been applied for and include the West Virginia Division of Air Quality permitting section telephone number for additional information. The applicant must post the sign for the duration of the public notice period.

45 CSR 14 - Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants ***(not applicable)***
45 CSR 19 - Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution which Cause or Contribute to Nonattainment ***(not applicable)***

45CSR14 establishes and adopts a preconstruction permit program for the construction and major modification of major stationary sources in areas of attainment with the National Ambient Air Quality Standards (NAAQS). Tucker County is currently classified as in attainment/unclassifiable with the NAAQS and, therefore, a proposed new "major stationary source" in Tucker County would be subject to the provisions of 45CSR14. The proposed facility is defined as a source listed under §45-14-2.43(a) - "Fossil Fuel-fired Steam Electric Plants of More than 250 Million Btu/hr Heat Input" - and, therefore, pursuant to 2.4(b), would be defined as a "major stationary source" if any regulated pollutant has a PTE in excess of 100 TPY. The proposed facility, however, does not have PTE of any regulated pollutant in excess of 100 TPY as shown in the table below, therefore, not defined as a major stationary source and is not subject to the provisions of 45 CSR 14. 45 CSR 19 applies to sources that are located in areas that are classified as non-attainment with the NAAQS. Tucker County is an attainment/unclassified area, therefore, 45 CSR 19 would not apply.

Pollutant	**PSD (45CSR14) Threshold (tpy)**	**NANSR (45CSR19) Threshold (tpy)**	**Ridgeline Facility PTE (tpy)**	**45CSR14 or 45CSR19 Review Required?**
Carbon Monoxide	100	NA	56.36	No
Nitrogen Oxides	100	NA	99.35	No
Sulfur Dioxide	100	NA	58.89	No
Particulate Matter 2.5	100	NA	71.54	No
Ozone (VOC)	100	NA	44.21	No

45 CSR 16 - Standards of Performance for New Stationary Sources

This rule incorporates the federal Clean Air Act (CAA) standards of performance for new stationary sources (NSPS) set forth in 40 CFR Part 60 by reference. 45 CSR 16 applies to this source by reference of 40 CFR 60 Subpart KKKK. See detailed discussion in Federal Regulatory section under 40 CFR 60 Subpart KKKK.

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

The purpose of this rule is to prevent and control particulate matter air pollution from materials handling, preparation, storage and other sources of fugitive particulate matter. Fundamental will ensure appropriate precautions are taken to prevent the escape of fugitive particulate matter beyond the boundary lines of the property.

45 CSR 21 - Control of Air Pollution from the Emission of Volatile Organic Compounds ***(not applicable)***

This rule establishes reasonably available control technology to control emissions of volatile organic compounds from sources that manufacture, mix, store, use, or apply materials containing volatile organic compounds that are located in Cabell, Kanawha, Putnam, Wayne and Wood Counties. This proposed facility is located in Tucker County, and therefore, not applicable to this rule.

45 CSR 22 - Air Quality Management Fee Program

The proposed facility is a minor source and not subject to 45CSR30. Fundamental is required to pay the appropriate annual fees and keep their Certificate to Operate current. The fee class would be 1B (Electric Utility greater than 300 MW).

45 CSR 27 - To Prevent and Control the Emissions of Toxic Air Pollutants ***(not applicable)***

The purpose of this rule is to prevent and control the discharge of toxic air pollutants requiring the application of best available technology (BAT) for chemical processing units. Section 2.4 defines a chemical processing unit as an assembly of reactors, tanks, distillation columns, heat exchangers, vaporizers, compressors, dryers, decanters, and/or other equipment used to treat, store, manufacture, or use toxic air pollutants. For the purpose of this rule, the term chemical processing unit includes surface coating equipment or similar equipment utilizing a toxic air pollutant as a solvent or for other purposes but does not include equipment used in the production and distribution of petroleum products providing that such equipment does not produce or contact materials containing more than 5% benzene by weight. Potential emissions of toxic air pollutants from the proposed facility result from the combustion of natural gas or diesel in the combustion turbines. Regulation of emissions of toxic air pollutants from these unit types are not included in this rule, and therefore, not applicable.

45 CSR 31 - Confidential Information

The purpose of this rule is to establish the requirements for claiming information submitted to the Director as confidential and the procedures for determinations of confidentiality in accordance with the provisions of W. Va. Code §22-5-10. The reason for the CBI submittal is that the application contains trade secrets regarding the configuration of the proposed facility as well as confidential technical information related to the combustion turbines. This was previously discussed in detail in the CONFIDENTIAL BUSINESS INFORMATION section.

45 CSR31B – Confidential Business Information and Emission Data

The purpose of this rule is to provide guidance and clarification concerning the term "types and amounts of pollutants discharged" defined under 45 CSR §31-2.4, the DAQ's legislative rule (45 CSR 31) and thus what information may not be claimed confidential in accordance with 45 CSR §31-6. An in-depth discussion regarding this was previously discussed in detail in the CONFIDENTIAL BUSINESS INFORMATION section.

45 CSR 33 - Acid Rain Provisions and Permits

This rule establishes and adopts general provisions and the operating permit program requirements for affected sources and affected units under the Acid Rain Program promulgated by the United States Environmental Protection Agency under Title IV of the Clean Air Act, as amended (CAA). The rule and associated reference methods, performance specifications and other test methods which are appended to these standards are adopted by reference. At this time, it has not been determined that Fundamental is subject to this rule pending Fundamental's selection of final power end user. If it is determined that Fundamental is subject, permit condition 4.1.19 requires Fundamental to comply with all applicable provisions of this rule. Additionally, Fundamental would be required to apply for an Acid Rain permit and comply with all applicable requirements of that permit.

As required in §72.30, the designated representative of any source with an affected unit under §72.9 shall submit a complete Acid Rain permit application by the applicable deadline in paragraphs (b) and (c) of this section, and the owners and operators of such source and any affected unit at the source shall not operate the source or unit without a permit that states its Acid Rain program requirements.

For any source with a new unit under §72.6(a)(3)(i), the designated representative shall submit a complete Acid Rain permit application governing such unit to the permitting authority at least 24 months before the later of January 1, 2000, or the date on which the unit commences operation.

Giving notice by publication in the Federal Register and in a newspaper of general circulation in the area where the source covered by the Acid Rain permit application is located or in a State publication designed to give general public notice is required. Notwithstanding the prior sentence, if a draft permit requires the affected units at a source to comply with §72.9(c)(1) and to meet any applicable emission limitation for NOx under §§76.5, 76.6, 76.7, 76.8, or 76.11 of this chapter and does not include for any unit a compliance option under §72.44, part 74 of this chapter, or §76.10 of this chapter, the Administrator may, in his or her discretion, provide notice of the draft permit by Federal Register publication and may omit notice by newspaper or State publication.

45 CSR 34 - Emission Standards for Hazardous Air Pollutants ***(not applicable)***

This rule incorporates the federal Clean Air Act (CAA) national emission standards for hazardous air pollutants (NESHAPs) set forth in 40 CFR Parts 61 and 63 by reference. There are no regulations in 40 CFR Parts 61 or 63 that apply to the Ridgeline Facility. Therefore, 45 CSR 34 does not apply.

45 CSR 40 (Control of Ozone Season Nitrogen Oxide Emissions)

The purpose of this rule is to establish ozone season NOx emission limitation, monitoring, recordkeeping, reporting, excess emissions, and NOx budget demonstration requirements for large industrial boilers and combustion turbines that have a maximum design heat input greater than 250 MMBTU/hr, in accordance with 40 CFR §51.121. 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.

§45-40-6 requires the owner or operator subject to this rule to comply with the provisions of 40 CFR part 75, subpart H, or shall install a CEMS or a certified PEMS as necessary to attribute ozone season mass emissions of NOx to each unit. NOx mass emissions recorded and reported shall be used to determine a unit's compliance with the ozone season NOx emission limitation. Section 6.6 of this rule allows an owner or operator to elect an alternative monitoring scenario. Fundamental has met the requirement of this section by requesting an alternative in this permit application. Fundamental has proposed the following parameters to identify how NOx emissions will be determined:

- Conduct initial performance testing as required by 40 CFR 60 Subpart KKKK., as prescribed in permit condition 4.3.2.
- Continuously monitor the parameters of the SCR systems to verify proper operation as required in permit conditions 4.2.4 and 4.4.3.
- Continuously monitor and record the amount of each type of fuel to determine the heat input of each combustion turbine. The total monthly heat input will be determined using the monitored fuel data.
- Calculate the total monthly NOx emissions for each month during the ozone season. The total NOx mass emissions will be calculated for the ozone season each year. Ozone season is defined as May 1 through September 30 in the same calendar year.

Federal

40 CFR 51.166 - Prevention of Significant Deterioration of Air Quality ***(not applicable)***

Federal construction permitting programs regulate new and modified sources of attainment pollutants under Prevention of Significant Deterioration (PSD) and new and modified sources of non-attainment pollutants under Non-Attainment New Source Review (NANSR). The provisions of this section are captured in the West Virginia state rules discussed above known as 45 CSR 14 (PSD) and 45 CSR 19 (NANSR). Both of these rules are part of West Virginia's State Implementation Plan (SIP).

Tucker County 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.

The permit application indicates that this proposed electric generation facility will be powered by combustion turbines equipped with HRSG. This description indicates that this proposed facility would be considered a natural gas combined cycle (NGCC) power plant. NGCC plants with a total heat input of more than 250 mmBtu per hour are identified as one of the 28 listed sources ("fossil fuel-fired steam electric plants" source category) that would be subject to the 100 tpy major source threshold.

The permit will implement physical and operational limitations so that the source is a synthetic minor and below major PSD thresholds and is not subject to PSD application review. These limitations will result in enhanced monitoring and recordkeeping and discussed in more detail in the MRRT OF OPERATIONS section of this document.

40 CFR 60 Subpart Kc - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After October 4, 2023 ***(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). Because the diesel fuel vapor pressure is 0.005 psia and is less than 0.25 psia, Subpart Kc is not applicable.

40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units ***(not applicable)***

Subpart Db applies to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 MMBtu/hr). As stated in §60.40b(i), affected facilities (i.e., heat recovery steam generators) that are associated with stationary combustion turbines and that meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other affected facilities (i.e. heat recovery steam generators with duct burners) that are capable of combusting more than 29 MW (100 MMBtu/h) heat input of fossil fuel. If the proposed affected facility (i.e. heat recovery steam generator) is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

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 MMBtu/hr or more based on the lower heating value of the fuel fired. As stated in §60.4305(b), stationary combustion

turbines regulated under 40 CFR 60 Subpart KKKK are exempt from the requirements of subpart GG of this part.

40 CFR 60 Subpart KKKK - Standards of Performance for Stationary Gas Turbines

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 the proposed facility rated at greater than 10 MMBtu per hour; therefore, this rule does apply. Subpart KKKK regulates NOx and 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 1 5percent 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.

The combustion turbines located at the proposed facility meet the emission standards found in Subpart KKKK. Fundamental will be using selective catalytic reduction (SCR) systems to reduce NOx emissions. Since Fundamental is not using water or steam injection to control NOx emissions, they are required to perform initial and annual performance testing to demonstrate compliance. §60.4340(b) allows an alternative to the annual performance testing requirement by installing, calibrating, maintaining and operating a continuous parameter monitoring system. These requirements are found in permit conditions 4.2.4 and 4.4.4 of the draft permit.

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

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. At this time, a final decision on whether power will be sold has been determined by Fundamental. If it is determined that Fundamental is subject, permit condition 4.1.19 requires Fundamental to comply with all applicable provisions of this rule.

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 proposed facility is not a major source of HAPs because its PTE of total HAPs is less than 25 tons per year and its PTE of any single HAP is less than 10 tons per year. Therefore, Subpart EEEE does not apply.

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 proposed facility is not a major source of HAPs; therefore, Subpart YYYY does not apply.

40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines ***(not applicable)***

Subpart ZZZZ applies to reciprocating internal combustion engines located at major and area sources of HAP emissions. There are no reciprocating internal combustion engines located at the facility; therefore, Subpart ZZZZ does not apply.

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 proposed facility is not a major source under 40 CFR 70; therefore, CAM does not apply.

40 CFR 70 - Title V Operating Permit Program

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 facility to be a synthetic minor source with respect to the Title V Operating Permit Program. Therefore, Part 70 does not apply. At this time, it has not been determined that Fundamental is subject to 45 CSR 33 due to selection of final power end user. If it is determined that Fundamental is subject to 45 CSR 33, this facility will be subject to Part 70 requirements and will be required to submit a Title V permit application.

40 CFR 72 - Permits Regulation

The purpose of this part is to establish certain general provisions and the operating permit program requirements for affected sources and affected units under the Acid Rain Program, pursuant to title IV of the Clean Air Act, 42 U.S.C. 7401, et seq., as amended by Public Law 101-549 (November 15, 1990).

At this time, it has not been determined that Fundamental is subject to this rule pending Fundamental's selection of final power end user. If it is determined that Fundamental is subject, permit condition 4.1.19 requires Fundamental to comply with all applicable provisions of this rule. Additionally, Fundamental would be required to apply for an Acid Rain permit and comply with all applicable requirements of that permit.

As required in §72.30, the designated representative of any source with an affected unit under §72.9 shall submit a complete Acid Rain permit application by the applicable deadline in paragraphs (b) and

(c) of this section, and the owners and operators of such source and any affected unit at the source shall not operate the source or unit without a permit that states its Acid Rain program requirements.
For any source with a new unit under §72.6(a)(3)(i), the designated representative shall submit a complete Acid Rain permit application governing such unit to the permitting authority at least 24 months before the later of January 1, 2000, or the date on which the unit commences operation.

Giving notice by publication in the Federal Register and in a newspaper of general circulation in the area where the source covered by the Acid Rain permit application is located or in a State publication designed to give general public notice is required. Notwithstanding the prior sentence, if a draft permit requires the affected units at a source to comply with §72.9(c)(1) and to meet any applicable emission limitation for NOx under §§76.5, 76.6, 76.7, 76.8, or 76.11 of this chapter and does not include for any unit a compliance option under §72.44, part 74 of this chapter, or §76.10 of this chapter, the Administrator may, in his or her discretion, provide notice of the draft permit by Federal Register publication and may omit notice by newspaper or State publication.

40 CFR 97 Subpart DDDDD - Federal NOx Budget Trading Program, CAIR NOx and SO_2 Trading Programs, CSAPR NOx and SO_2 Trading Programs, and Texas SO_2 Trading Program

This rule sets forth the general, designated representative, allowance, and monitoring provisions for the Cross-State Air Pollution Rule (CSAPR) SO_2 Group 2 Trading Program, under section 110 of the Clean Air Act and §52.39 of this chapter, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.

This rule applies to fossil-fuel-fired combustion turbines serving at any time, on or after January 1, 2005, a generator with a nameplate capacity of more than 25 MWe producing electricity for sale. At this time, it has not been determined that Fundamental is subject to this rule pending Fundamental's selection of final power end user. If it is determined that Fundamental is subject, permit condition 4.1.19 requires Fundamental to comply with all applicable provisions of this rule.

ANALYSIS OF NON-CRITERIA REGULATED POLLUTANTS

This section provides information on those regulated pollutants that are not classified as "criteria pollutants". Criteria pollutants are defined as Carbon Monoxide (CO), Lead (Pb), Oxides of Nitrogen (NOx), Ozone, Particulate Matter (PM_{10} and $PM_{2.5}$), and Sulfur Dioxide (SO_2). These pollutants have National Ambient Air Quality Standards (NAAQS) set for each that are designed to protect public health and welfare. Other pollutants of concern, although designated as non-criteria *and without national air quality standards*, are regulated through various state and federal programs designed to limit their emissions and public exposure. These programs include federal source-specific HAP regulations promulgated under 40 CFR 61 and 40 CFR 63 (NESHAPS/MACT), and WV Legislative Rule 45 CSR 27 that regulates certain HAPs as Toxic Air Pollutants (TAPs). Any potential applicability to these programs were addressed in the REGULATORY APPLICABILITY section of this document.

The majority of non-criteria regulated pollutants fall under the definition of HAPs which, with some revision since, were 188 compounds identified under Section 112(b) of the Clean Air Act (CAA) as pollutants or groups of pollutants that EPA knows, or suspects *may* cause cancer or other serious human

health effects. These adverse health effects may be associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect variability in humans such as genetics, age, health status (e.g., the presence of pre-existing disease) and lifestyle. As stated previously, *there are no federal or state ambient air quality standards for these specific chemicals*. It is also important to note that the USEPA does not divide the various HAPs into further classifications based on toxicity or if the compound is a suspected carcinogen. The HAP emissions associated with this application are found in the ESTIMATE OF EMISSIONS section of this document. For a complete discussion of the known health effects of each compound refer to the IRIS database located at *www.epa.gov/iris*.

The HAPs emitted from the proposed facility are created during the combustion of natural gas. The HAP emission values were estimated using EPA AP-42: Compilation of Air Emissions Factors from Stationary Sources. AP-42 contains emission factors and process information for more than 200 air pollution source categories. AP-42 Chapter 3.1 contains emission factors for stationary gas turbines. Available data indicate that emission levels of HAP are lower for gas turbines than for other combustion sources. This is due to the high combustion temperatures reached during normal operation. The emissions data also indicate that formaldehyde is the most significant HAP emitted from combustion turbines. For natural gas fired turbines, formaldehyde accounts for about two-thirds of the total HAP emissions. Polycyclic aromatic hydrocarbons (PAH), benzene, toluene, xylenes, and others account for the remaining one-third of HAP emissions. For diesel-fired turbines, small amount of metallic HAPs are present in the turbine's exhaust in addition to the gaseous HAP identified under natural gas fired turbines. These metallic HAP are carried over from the fuel constituents.

The following table lists each HAP currently identified by Fundamental as potentially being emitted based upon the information available in AP-42 Chapter 3.1 Tables 3.1.3, 3.1.4, and 3.1.5 and manufacturer data. Additionally, the Chemical Abstracts Service (CAS) registry number, the type of HAP, the potential to emit (PTE) of the individual HAP, and any potentially applicable Most Available Control Technology (MACT) is provided.

Pollutant	**CAS #**	**Type**	**PTE (TPY)**	**MACT[1]**
1, 3 Butadiene	106-99-0	VOC	0.09	None
Acetaldehyde	75-07-0	VOC	0.69	None
Acrolein	107-02-8	VOC	0.11	None
Benzene	71-43-2	VOC	0.31	None
Propylene Oxide	75-56-9	VOC	0.50	None
Ethylbenzene	100-41-4	VOC	0.55	None
Formaldehyde	50-00-0	VOC	3.86	None
Naphthalene	91-20-3	VOC	0.20	None
Toluene	108-88-3	VOC	2.25	None
Xylenes	1330-20-7	VOC	1.11	None
Arsenic	7440-38-2	Non-VOC	0.06	None
Cadmium	7440-43-9	Non-VOC	0.03	None
Chromium	18540-29-9	Non-VOC	0.06	None
Manganese	7439-96-5	Non-VOC	4.45	None

Mercury	7439-97-6	Non-VOC	0.01	None
Nickel	12035-72-2	Non-VOC	0.03	None
Selenium	7446-34-6	Non-VOC	0.14	None

[1] Does a MACT apply to this specific HAP for any emission unit at the facility? See REGULATORY APPLICABILITY section for discussion.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling is not required of this source because the proposed facility is not subject to 45 CSR 14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollutants) as discussed in the Regulatory Discussion Section.

SOURCE AGGREGATION

"Building, structure, facility, or installation" is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.

Fundamental does have control of the proposed site. There are no other emission units located on contiguous or adjacent properties with the Ridgeline Facility. Therefore, the emissions from the proposed facility should not be aggregated in determining Title V or PSD status.

MONITORING, RECORDKEEPING, REPORTING, AND TESTING (MRRT) OF OPERATIONS

Fundamental will be required to perform the following MRRT:

- **Synthetic Minor Limitations (40 CFR 51.166 and 40 CFR 70)**
  - Operating limits have been established for the combustion turbines. Fundamental will be required to restrict the total number of operating hours for the turbines.
    - Combination of natural gas and diesel - 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. 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 permittee shall multiply the hourly steady state operation emissions represented in draft permit condition 4.1.3 by the number of hours of steady state operations and adding the appropriate startup and shutdown emission from draft permit condition 4.1.4. The permittee shall calculate the emissions monthly and on a twelve-month rolling total. A twelve-month rolling total shall mean the sum of emissions at any given time during the previous twelve consecutive calendar months.

- **40 CFR 60 Subpart KKKK MRRT and 45 CSR 13**
  - 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)). Monitor the catalyst bed inlet temperature and pressure differential across the catalyst bed to indicate proper operation.
  - 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:
    - Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NOx emission controls
    - Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established
    - Explain the process used to make certain that data is obtained that are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable)
    - Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data
    - Describe the frequency of monitoring and the data collection procedures which you will use, and
    - Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer's recommendation, the reasons for the differences must be explained.
  - In accordance with §60.4365(a), keep records of the fuel characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying:
    - The maximum total sulfur content of oil is 0.05 weight percent (500 ppmw) or less
    - The total sulfur content for natural gas is 20 grains of sulfur or less per 100 standard cubic feet
    - Potential sulfur emissions are less than 0.060 pounds SO_2/million Btu heat input
  - Submit notifications of the date construction commences, the actual date of initial startup as required under §60.7.
  - 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.
  - Submit the results of the initial performance test within 60 days following completion of the test.
  - An initial performance test for NOx and SO_2 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.
    - An initial performance test for CO emissions to demonstrate compliance with permit condition 4.1.3. 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. **[45CSR§13-5.10]**
- **45 CSR 17 Fugitive Sources of Particulate Matter**
    - Sources of fugitive particulate matter at the proposed facility include diesel truck and employee traffic on paved plant roads. 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.
    - 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.
    - It should be noted, as stated in permit condition 4.1.14, the combustion turbines/HRSG shall use the air pollution control devices specified in Section 1.0 and permit condition 4.1.6 and identified in Permit Application R13-3713 ***at all times when in operation*** except during periods of startup and shutdown when operating temperatures do not allow for proper use of the air pollution control devices.
- Maintain records of diesel fuel unloading operations in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location.
- Maintain records of testing conducted in accordance with the permit. Said records shall be maintained on-site or in a readily accessible off-site location.
- Maintain the corresponding records specified by the on-going monitoring requirements of and testing requirements of the permit.
- Maintain a record of all PTE HAP calculations for the entire facility.

The records shall be maintained on site or in a readily available off-site location maintained by Fundamental for a period of five (5) years.

STATUTORY AUTHORITY OF THE DAQ

The statutory authority of the DAQ is given under the Air Pollution Control Act (APCA) – West Virginia Code §22-5-1, *et. seq.* – which states, under §22-5-1 ("Declaration of policy and purpose"), that:

> It is hereby declared that public policy of this state and the purpose of this article is to achieve and maintain such levels of air quality ***as will*** (underlining and emphasis added) protect human health and safety, and to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people, promote the economic and social development of this state and facilitate the enjoyment of the natural attractions of this state.

Therefore, while the code states that the intent of the rule includes the criteria outlined in the latter part of the above sentence, it is clear by the underlined and bolded section of the above sentence that the scope of the delegated authority does not extend beyond the *impact of air quality* on these criteria. Based on the language under §22-5-1, *et. seq.*, the DAQ, in making determinations on issuance or denial of permits under WV Legislative Rule 45 CSR 13 (45 CSR 13), does not take into consideration substantive non-air quality issues such as job creation, economic viability of proposed project, strategic energy issues, non-air quality environmental impacts, nuisance issues, etc.

The basis for issuance or denial of an air quality permit is given under 45 CSR 13. Pursuant to §45-13-5.7, the DAQ shall issue a permit unless:

> a determination is made that the proposed construction, modification, registration or relocation will violate applicable emission standards, will interfere with attainment or maintenance of an applicable ambient air quality standard, cause or contribute to a violation of an applicable air quality increment, or be inconsistent with the intent and purpose of this rule or W. Va. Code § 22-5-1, et seq., in which case the Secretary shall issue an order denying such construction, modification, relocation and operation. The Secretary shall, to the extent possible, give priority to the issuance of any such permit so as to avoid undue delay and hardship.

It is clear under 45 CSR 13 that denial of a permit must be based on one of the above explicitly stated criteria or, as noted, is inconsistent with 45 CSR 13 or §22-5-1, *et. seq*. As is stated above, it is the DAQ's position that the intent of both the APCA and 45 CSR 13 is to circumscribe the authority of the DAQ to air quality issues as outlined in the APCA and in West Virginia's State Implementation Plan (SIP).

The air quality issues evaluated relating to Fundamental's proposed construction are outlined in this document. All applicable and potentially applicable rules were evaluated in the REGULATORY DISCUSSION section. The items covered under that section represent the extent of the substantive air quality issues over which the DAQ has authority to evaluate under 45 CSR 13 and the APCA as relating to this permit application.

PUBLIC INVOLVEMENT

From the date of Fundamental's notice of application (March 26, 2025) until the release of this EE/FS and draft permit, the DAQ received comments and requests for a public meeting from various individuals and organizations concerning the proposed facility. All comments/public meeting requests received were provided with an email response acknowledging receipt.

The DAQ provided notice to the public of an open comment period for permit application R13-3713 in *The Parsons Advocate* on June 18, 2025. This notice of open comment period provided information on the facility and proposed emissions.

Additionally, the DAQ will hold an in person public meeting to provide information and answer questions on air quality issues relevant to this permit application. The meeting will be held at the Maple/Balsam/Spruce Rooms at Canaan Valley Resort State Park, 230 Main Lodge Road, Davis, WV 26260 on Monday, June 30, 2025, from 6:00 p.m. until 9:00 p.m. Doors will open at 5:00 p.m. to register attendees. If you plan to attend the in-person public meeting, to save time and ensure all participants in attendance are registered, please fill out the pre-registration form at <https://forms.gle/jEQTGGPUP73xBmRJ7> by 8:00 a.m. on Monday, June 30, 2025. Upon arrival, we request that you sign your name on the pre-registration list. While pre-registration is not required, it is encouraged to save time and ensure all participants in attendance are registered. If you do not have internet access and want to pre-register, please contact Nicole Ernest at 304-926-0475.

The DAQ will also hold a virtual public meeting to accept oral comments that are relevant to this permit application on Thursday, July 17, 2025, from 6:00 p.m. until 8:00 p.m. The purpose of this virtual public meeting is ONLY to accept oral comments, the DAQ will not be responding to questions during this virtual public meeting. Registration is required by 4:00 p.m. on Thursday, July 17, 2025, to participate in the virtual public meeting. To register, please complete the participant registration form at < https://forms.gle/dYSUgFZigRGe8WQp9>. To register to provide an oral comment, please indicate "yes" you want to provide oral comments for the record when you register with the previously provided link. A confirmation e-mail will be sent with your responses when you register. A separate email with information on how to join the public meeting will be sent shortly after registration closes at 4:00 p.m. on Thursday, July 17, 2025. If you do not have internet access and want to register, please contact Nicole Ernest at 304-926-0475. If you have previously provided written comments, you do not need to read your written comment during the virtual public meeting to accept oral comments.

Written comments must be received by the DAQ by 5:00 pm on Friday, July 18, 2025. Written comments may be submitted by:

- Email: Jerry Williams at Jerry.Williams@WV.gov with "Fundamental Data Comments" as the subject line, or
- Mail: WVDEP - Air Quality, Attention: Jerry Williams, 601 57th Street SE, Charleston, WV 25304.

According to information provided by the applicant, the proposed facility could begin operation in 2027. The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed construction will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written

comments received at the email address/physical address noted above within the specified time frame, or comments presented orally at the scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

The draft permit and engineering evaluation can be downloaded at:

https://dep.wv.gov/daq/permitting/Pages/NSR-Permit-Applications.aspx

At the conclusion of the Notice of Open Comment Period which begins on June 18, 2025 and ends on July 18, 2025, the DAQ will prepare a RESPONSE TO PUBLIC COMMENTS document which will include background information, overview of comments received, a response to comments, list of commenters, the actual comments received, and any other pertinent information that is needed as a result of the public comments received.

This document will be made available for review on DEP's AX website (https://documents.dep.wv.gov/AppXtender/) and a copy will be provided via email to all parties that commented during either public comment period.

RECOMMENDATION TO DIRECTOR

The information provided in permit application R13-3713 indicates that compliance with all applicable state and federal air quality regulations will be achieved. Therefore, I recommend to the Director that the DAQ go to public notice with a preliminary determination to issue Permit Number R13-3713 to Fundamental Data for the proposed construction of a turbine power facility located in Thomas, Tucker County, WV.

Jerry Williams, P.E.
Engineer