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055-00136

45CSR 13 New Source Review (NSR) Air Permit Application

Bluefield Regional Medical Center
Bluefield, West Virginia

BLUEFIELD REGIONAL MEDICAL CENTER

Prepared for:

Bluefield Regional Medical Center
500 Cherry Street
Bluefield, West Virginia

Prepared by:

AMEC Environment & Infrastructure, Inc.
Chelmsford, Massachusetts

December 2014

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APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION

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):*
Bluefield Hospital Company, LLC

2. Federal Employer ID No. ***(FEIN):***
272372291

3. Name of facility *(if different from above):*
Bluefield Regional Medical Center

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

5A. Applicant's mailing address:
500 Cherry Street
Bluefield, WV 24701

5B. Facility's present physical address:
500 Cherry Street
Bluefield, WV 24701

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: **CHS Professional Services Corp.**

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: **Bluefield Hospital Company, LLC owns the property.**
- If **NO,** you are not eligible for a permit for this source.

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

10. North American Industry Classification System **(NAICS)** code for the facility:
622100

11A. DAQ Plant ID No. (for existing facilities only):
055-00136

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**.

From I-77 South, take the Bluefield exit and take a right on John F. Nash Blvd. Take a left on 460 West. Turn right at Maryland Avenue exit and the hospital will be on the left on Cherry St.

From I-77 North, take Exit 1 and turn left onto US-52 West. Turn right onto US-460 North. Turn left onto US-19 West. Turn left onto Cherry Street.

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
N/A	**Bluefield**	**Mercer**
12.E. UTM Northing (KM): **4123289.60**	12F. UTM Easting (KM): **479127.08**	12G. UTM Zone: **17**

13. Briefly describe the proposed change(s) at the facility:
Permitting of two dual-fired boilers and one diesel-fired emergency generator.

14A. Provide the date of anticipated installation or change: / /	14B. Date of anticipated Start-Up if a permit is granted:
– If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: **Generator was installed in 2008, boilers in 2011.**	**N/A**

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 **Emergency generator**

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

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

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

☐ Other Collectors, specify

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

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

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

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

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

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

☐ **YES** ☒ **NO**

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

Section III. Certification of Information

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

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

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

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

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

Certification of Truth, Accuracy, and Completeness

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

Compliance Certification

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

SIGNATURE Richard Cox *(Please use blue ink)* DATE: 12-11-14 *(Please use blue ink)*

35B. Printed name of signee: **Richard Cox**		35C. Title: **Director of Facilities**
35D. E-mail: **rcox@brmcwv.org**	36E. Phone: **304-327-1131**	36F. FAX: **304-327-1826**
36A. Printed name of contact person (if different from above): **Richard Cox**		36B. Title: **Director of Facilities**
36C. E-mail: **rcox@brmcwv.org**	36D. Phone: **304-327-1131**	36E. FAX: **304-327-1826**

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

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
BLUEFIELD HOSPITAL COMPANY, LLC
DBA BLUEFIELD REGIONAL MEDICAL CENTER
500 CHERRY ST
BLUEFIELD, WV 24701-3306

BUSINESS REGISTRATION ACCOUNT NUMBER: **2240-5313**

This certificate is issued on: 11/18/2010

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

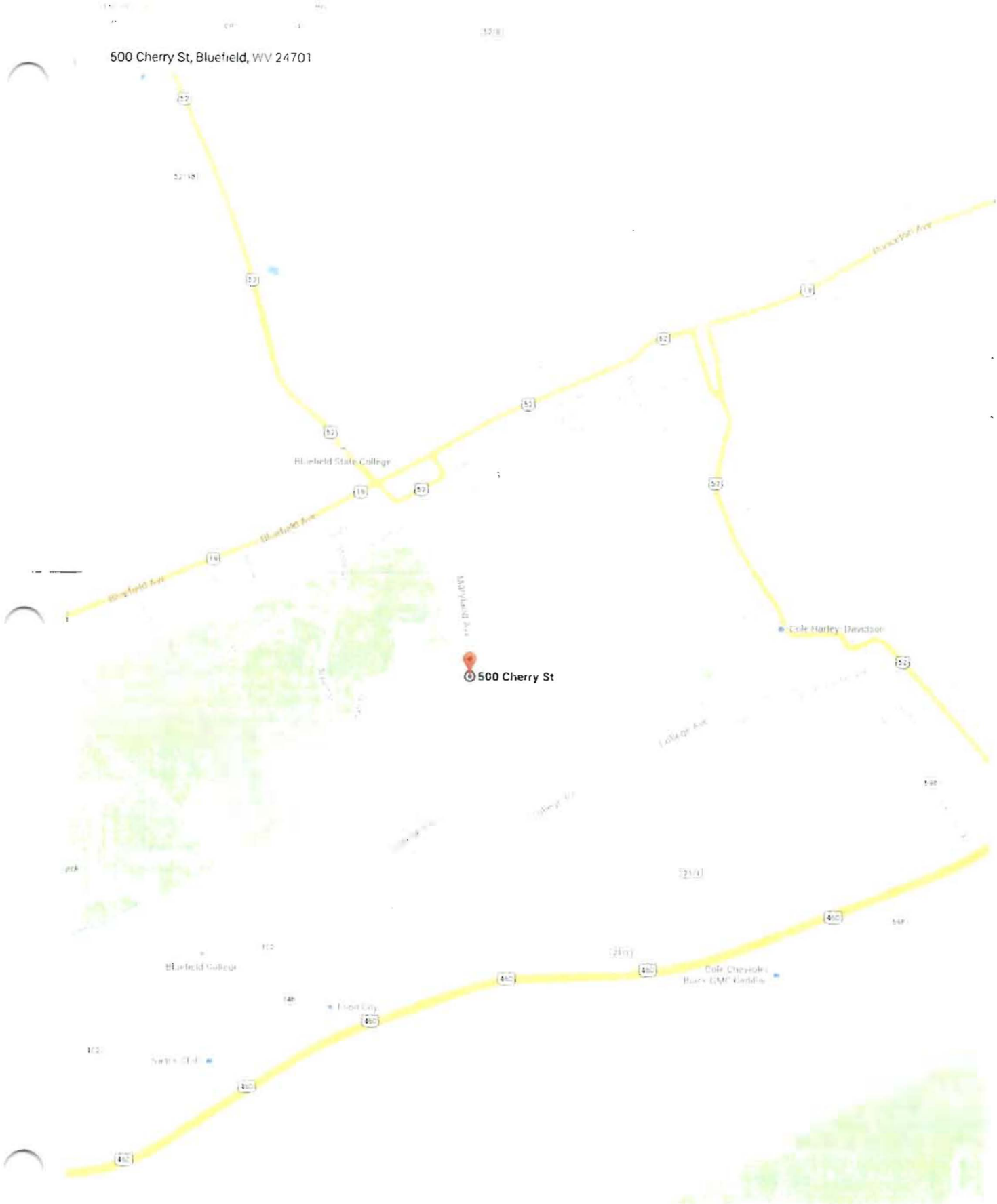
Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4
L1342283520

ATTACHMENT B
MAP

500 Cherry St, Bluefield, WV 24701



ATTACHMENT C
INSTALLATION AND START UP SCHEDULE

The 900 kW diesel-fired emergency generator was installed on May 27, 2008. The two Hurst boilers were purchased and installed in 2011. Operation of the boilers began in September 2011.

No new equipment is being installed as part of this NSR permit application.

ATTACHMENT D
REGULATORY DISCUSSION

This section briefly outlines the federal and state air quality requirements to which Bluefield Regional Medical Center (BRMC)'s 900 kW diesel-fired emergency generator and two dual-fired boilers are subject.

Federal Requirements for the Hurst Boilers

New Source Performance Standards (NSPS)

The two dual-fired Hurst boilers are subject to 40 CFR 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" because the rated heat input of each boiler (10.043 MMBtu/hr) is greater 10 MMBtu/hr and less than or equal to 100 MMBtu/hr. The Subpart Dc requirements for the two boilers include:

- SO_2 emissions are limited to 0.50 lb/MMBtu when combusting oil and BRMC is required to only fire the boilers with oil containing less than 0.5 weight percent sulfur. (40 CFR 60.42c(d))
- Compliance with the SO_2 emission limits and fuel oil sulfur limits may be determined based on a certification from the fuel supplier. (40 CFR 60.42c(h))
- BRMC must notify the WVDEP of the date of construction and actual startup of the two boilers (40 CFR 60.48c(a));
- BRMC must submit reports to WVDEP containing the calendar dates covered in the reporting period, the name of the oil supplier, a statement from the oil supplier that the oil complies with the fuel oil sulfur limits, the sulfur content or maximum sulfur content of the oil, and a certified statement that the records of fuel supplier certifications represent all of the fuel combusted during the reporting period. (40 CFR 60.48c(d,e));
- BRMC must keep fuel supplier certification records including the name of the oil supplier, a statement from the oil supplier that the oil complies with the fuel oil sulfur limits, and the sulfur content or maximum sulfur content of the oil. (40 CFR 60.48c(f));
- BRMC must maintain the amount of each fuel (oil and natural gas) combusted in each boiler on a monthly basis. (40 CFR 60.48c(g));
- BRMC must keep all required records for a period of two years. (40 CFR 60.48c(i));
- BRMC must submit the reports required to WVDEP twice per year and the report shall be postmarked by the 30th day following the end of the reporting period.

As of the date of this application, BRMC will begin complying with the requirements of 40 CFR Subpart Dc.

National Emissions Standards for Hazardous Air Pollutants

The two Hurst Boilers are not subject to 40 CFR 63, Subpart JJJJJJ, "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources" because both dual-fired boilers burn oil for less than 48 hours per year and are therefore, considered gas-fired units. However, BRMC is aware that if oil is fired in either of the dual-fired boilers more than 48 hours in a calendar year or if an oil-fired or solid fuel-fired boiler is installed in the future, it will be subject to 40 CFR 63 Subpart JJJJJJ and will need to comply with all applicable requirements.

Federal Requirements for the 900 kW Emergency Generator

New Source Performance Standards (NSPS)

The 900 kW diesel-fired emergency generator was installed in May 2008 and is therefore, subject to 40 CFR 60, Subpart IIII - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and the associated fuel, monitoring, compliance, testing, notification, reporting,

and recordkeeping requirements (40 CFR 60.4200 *et seq.*) and related applicable provisions of 40 CFR 60.7 and 60.8.

The emission standards in NSPS Subpart IIII applicable to the 900 kW emergency generator are summarized below.

Emission Standards for Emergency Engines (g/kW-hr)

Emergency Engine	Model Year	NMHC+NOX	CO	PM
900 kW emergency generator	2006 and after	6.4	3.5	0.20

The 900 kW emergency generator meets the applicable emission limits and provisions of NSPS Subpart IIII.

National Emissions Standards for Hazardous Air Pollutants

The 500 kW diesel-fired emergency generator (not part of this permit application) is subject to 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines ("RICE MACT"). However, in accordance with 40 CFR 63.6585(f), the RICE NESHAP **does not** apply to the 500 kW diesel-fired emergency generator because it is an existing institutional emergency stationary engines located at an area source of HAPs.

State Requirements

45 CSR 02 (To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)
The Hurst Boilers are dual-fired indirect heat exchangers with design heat input capacities greater than 10 MMBtu/hr and are therefore subject to this rule. The two Hurst boilers will comply with the applicable PM emission limits and visible emission standards in the rule.

45 CSR 10 (To Prevent and Control Air Pollution from the Emission of Sulfur Oxides)
The Hurst Boilers are dual-fired indirect heat exchangers with a design heat input capacity greater than 10 MMBtu/hr. The two Hurst boilers will comply with the applicable SO2 emission limits in the rule.

45 CSR 11 (Prevention of Air Pollution Emergency Episodes)
When requested by the WVDEP Director, BRMC will prepare standby plans for reducing air pollutant emissions during Air Pollution Alerts, Air Pollution Warnings, and Air Pollution Emergencies.

45 CSR 13 (Permits for Construction, Modification, Relocation Updates, Temporary Permits, General Permits, and Procedures for Evaluation)
This permit application is being submitted pursuant to 45 CSR 13 for the construction of the two Hurts boilers and the 900 kW emergency generator.

45 CSR 14 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration)
BRMC is not a major source and the installation of the two Hurst boilers and the 900 kW emergency generator does not trigger Prevention of Significant Deterioration requirements.

45 CSR 16 (Standards of Performance for New Stationary Sources)
As described above, the two Hurst boilers are subject to NSPS Subpart Dc in 40 CFR 60 and the 900 kW emergency generator is subject to NSPS Subpart IIII in 40 CFR 60.

45 CSR 19 (Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution Which Cause or Contribute to Nonattainment)
BRMC is not a major source and the installation of the two Hurst boilers and the 900 kW emergency generator does not trigger New Source Review for any non-attainment pollutants (i.e. SO2).

45 CSR 27 (To Prevent and Control the Emissions of Toxic Air Pollutants)
BRMC does not utilize equipment that will be subject to the provisions of this rule.

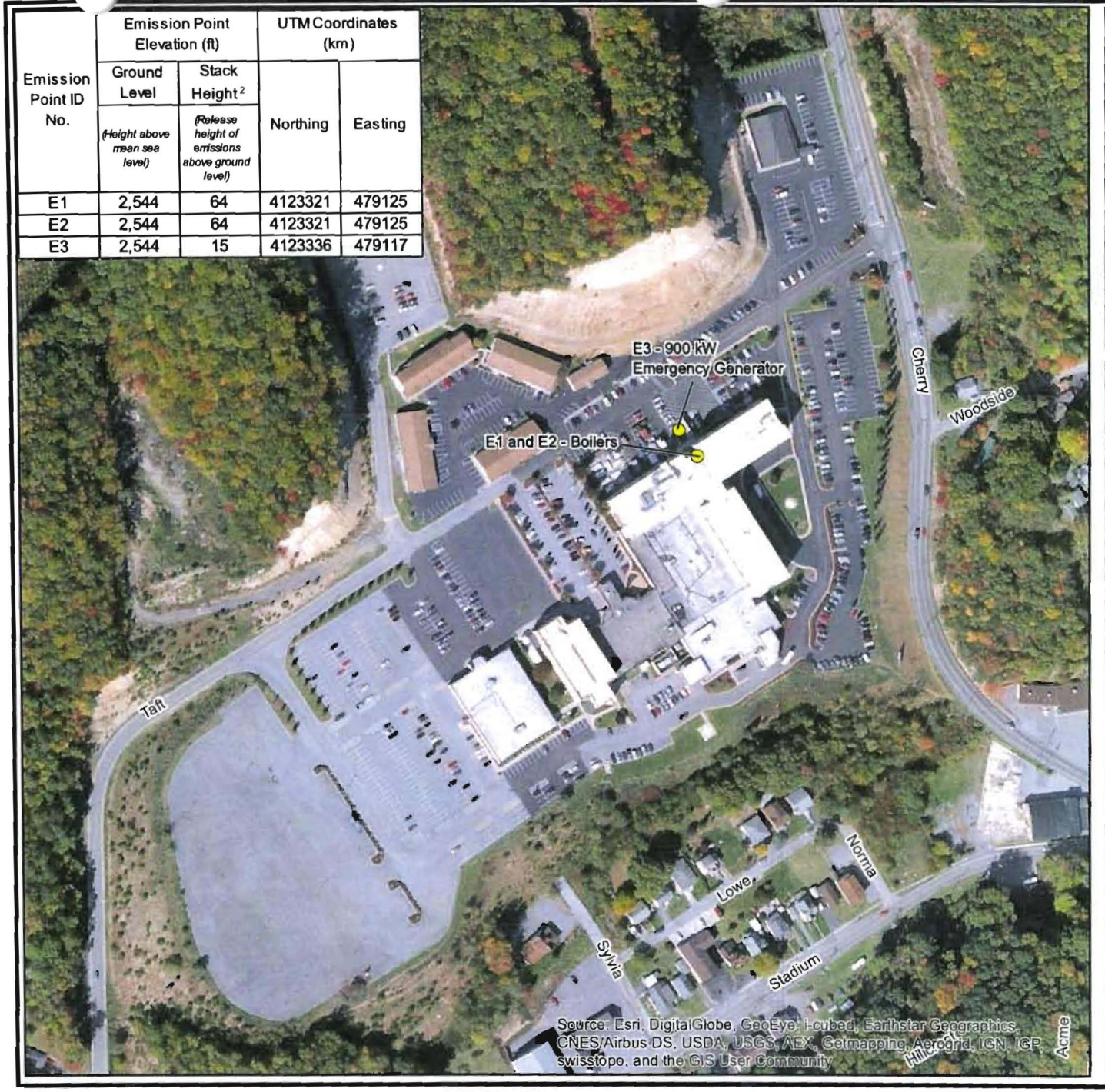
45 CSR 30 (Requirements for Operating Permits)
BRMC is not a major source subject to the Title V Operating Permit program.

45 CSR 33 (Acid Rain Provisions and Permits)
BRMC is not a major source subject to the Acid Rain program.

45 CSR 34 (Emission Standards for Hazardous Air Pollutants)
As described above, the two Hurst boilers and the 900 kW emergency generator are not subject to any of the federal NESHAPs.

ATTACHMENT E
PLOT PLAN

Emission Point ID No.	Emission Point Elevation (ft)		UTM Coordinates (km)	
	Ground Level (Height above mean sea level)	Stack Height[2] (Release height of emissions above ground level)	Northing	Easting
E1	2,544	64	4123321	479125
E2	2,544	64	4123321	479125
E3	2,544	15	4123336	479117



Plot Plan

Bluefield Regional Medical Center

500 Cherry Street
Bluefield, WV

Location of Site

ATTACHMENT E

N

0 250
Feet

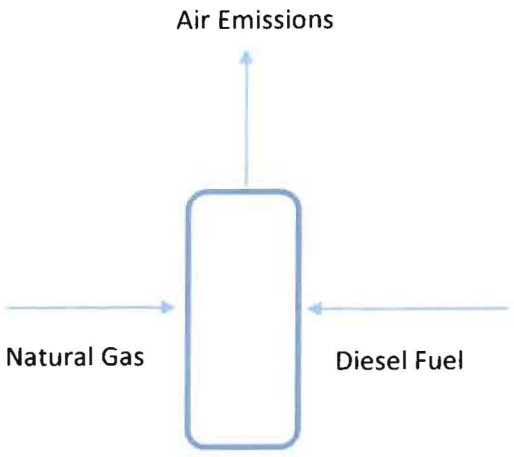
amec

AMEC Environment & Infrastructure, Inc.
271 Mill Road
Chelmsford, MA 01824
(978) 692-9090

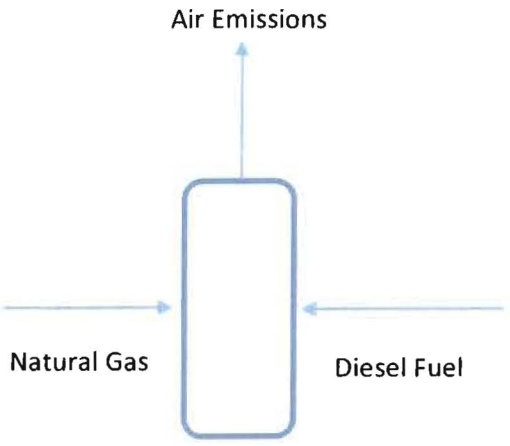
H:\AssortedSiteMaps\Bluefield_WV\SiteMap_Bluefield_WV.mxd November 24, 2014 DWN: andrew.nelson CHKD: AH

Sources: ESRI, 2012.

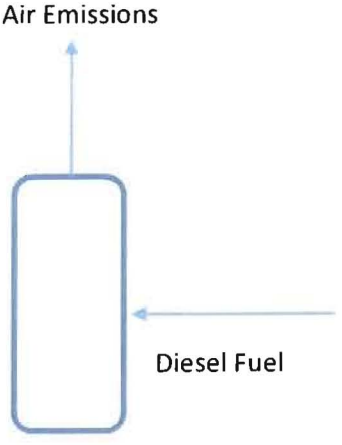
ATTACHMENT F
DETAILED PROCESS FLOW DIAGRAM



Emission Unit
Hurst Boiler #1
E1



Emission Unit
Hurst Boiler #2
E2



Emission Unit
900 kW Cummins
Emergency Generator
E3

ATTACHMENT G
PROCESS DESCRIPTION

Two 10.043 MMBtu/hr Hurst dual-fired boiler (E1 and E2) are used to produce steam for plant support. These boilers are almost exclusively fired with natural gas but maintain the capability to burn diesel fuel in case of curtailment or natural gas supply interruption. In addition, a 900 kW (approximately 1,350 hp) emergency generator (E3) is used for emergency backup electric power. The emergency generator will operate on diesel fuel and will be periodically operated for short periods per manufacturer's maintenance instructions to ensure operational readiness in the event of an emergency.

ATTACHMENT H
MATERIAL SAFETY DATA SHEET FOR FUEL OIL

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

Section 1: Identification

Product Identifier: No. 2 Diesel Fuel

SDS Number: 001847

Synonyms/Other means of identification: #2DSL ULS (All Grades); #2DSL HS (All Grades); #2DSL LS (All Grades); CARB DSL (All Grades); DIST CARB-Diesel (All Grades); Distillate,Diesel (All Grades); Gas Oil (All Grades); Hydrodewaxer Diesel (All Grades); Diesel Fuel (All Grades); EPA Diesel Fuel (All Grades); No. 2 Diesel (All Grades); No. 2 Diesel Fuel Oil (All Grades); No. 2 Distillate; No. 2 Diesel with Renewable Diesel (All Grades); Super Diesel Fuel (All Grades); Distillate Blend Stock; Fuels, Diesel; Virgin Diesel Fuel

MARPOL Annex I Category: Gas Oils, Including Ship's Bunkers

Intended Use: Fuel

Uses Advised Against: All others

Manufacturer:
Phillips 66 Company
P.O. Box 4428
Houston, Texas 77210

SDS Information:
Phone: 800-762-0942
Email: SDS@P66.com
URL: www.Phillips66.com

Emergency Health and Safety Number:
Chemtrec: 800-424-9300 (24 Hours)

Customer Service:
800-527-5476 *Technical Information:*
800-527-5476

Section 2: Hazards Identification

Classified Hazards

H226 – Flammable liquids – Category 3
H315 – Skin corrosion/irritation – Category 2
H304 – Aspiration Hazard – Category 1
H332 – Acute toxicity, Inhalation – Category 4
H373 – Specific target organ toxicity (repeated exposure) – Category 2
H351 – Carcinogenicity – Category 2

Other Hazards

None Known

Label Elements

DANGER

Flammable liquid and vapor.

Causes skin irritation
May be fatal if swallowed and enters airways
Harmful if inhaled
May cause damage to organs through prolonged or repeated exposure
Suspected of causing cancer.

Obtain special instructions before use; Do not handle until all safety precautions have been read and understood; Keep away from heat/sparks/open flames/hot surfaces. - No smoking; Keep away from any possible contact with water, because of violent reaction and possible flash fire; Ground/bond container and receiving equipment; Use explosion-proof electrical/ventilating/lighting equipment; Use only non-sparking tools; Take precautionary measures against static discharge; Do not breathe dust/fume/gas/mist/vapours/spray; Wash thoroughly after handling; Use only outdoors or in a well-ventilated area; Avoid release to the environment; Wear protective gloves / protective clothing / eye protection / face protection; Call a POISON CENTER or doctor/physician if you feel unwell; IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician; Do NOT induce vomiting; IF ON SKIN: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower; IF ON SKIN:; Wash with plenty of soap and water; If skin irritation occurs:; Get medical advice/attention; IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing; Take off contaminated clothing and wash before reuse; In case of fire: Use dry chemical, carbon dioxide, or foam for extinction; Store in a well-ventilated place. Keep cool; Dispose of contents/container to approved disposal facility

Section 3: Composition / Information on Ingredients

Chemical Name	CAS[#]	Concentration[1]
Fuels, diesel, no. 2	68476-34-6	95-100
Renewable Diesel	Proprietary	0-5
Naphthalene	91-20-3	<1

Total Sulfur: < 0.1 wt%

[1] All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4: First Aid Measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

Inhalation (Breathing): If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

Most important symptoms and effects

Acute: Minor respiratory irritation at high vapor concentrations.
Delayed: Dry skin and possible irritation with repeated or prolonged exposure.

Notes to Physician: When using high-pressure equipment, injection of product under the skin can occur. In this case, the casualty should be sent immediately to hospital. Do not wait for symptoms to develop. High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Section 5: Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 1 **Flammability:** 2 **Instability:** 0

0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: Flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

Section 7: Handling and Storage

Precautions for safe handling: Keep away from ignition sources such as heat/sparks/open flame – No smoking. Take precautionary measures against static discharge. Nonsparking tools should be used. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapors or mists. Use only outdoors or in well-ventilated area. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Flammable. May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. Open container slowly to relieve any pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

For use as a motor fuel only. Do not use as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal.

The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of incomplete combustion products (e.g. carbon monoxide, oxides of sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

Diesel engine exhaust contains hazardous combustion products and has been identified as a cancer hazard. Exposure should be minimized to reduce potential risk.

Static Accumulation Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding of tanks, transfer piping, and storage tank level floats are necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. Special care should be given to ensure that special slow load procedures for "switch loading" are followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha). For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Section 8: Exposure Controls / Personal Protection

Chemical Name	ACGIH	OSHA	Other
Fuels, diesel, no. 2	TWA: 100 mg/m³ Skin	—	TWA: 100 mg/m³ (Phillips 66 Guidelines)

Naphthalene	STEL: 15 ppm TWA: 10 ppm 2 ppm TWA; skin; A3 - confirmed animal carcinogen with unknown relevance to humans; TLV basis: upper respiratory tract irritation Skin	TWA: 10 ppm : 50 mg/m³	TWA: 0.2 mg/m³ (as total of 17 PNAs measured by NIOSH Method 5506) (Phillips 66 Guidelines)

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

Section 9: Physical and Chemical Properties

Data represent typical values and are not intended to be specifications. N/A = Not Applicable; N/D = Not Determined

Appearance: Straw colored to dyed red
Physical Form: Liquid
Odor: Diesel fuel
Odor Threshold: No data
pH: Not applicable
Vapor Density (air=1): > 3
Upper Explosive Limits (vol % in air): 10.0
Lower Explosive Limits (vol % in air): 0.3
Evaporation Rate (nBuAc=1): <1
Particle Size: N/A
Percent Volatile: Negligible @ ambient conditions
Flammability (solid, gas): N/A

Flash Point: 125 - 180 °F / 52 - 82 °C
Test Method: Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
Initial Boiling Point/Range: 300 - 690 °F / 149 - 366 °C
Vapor Pressure: 0.40 mm Hg
Partition Coefficient (n-octanol/water) (Kow): No data
Melting/Freezing Point: No data
Auto-ignition Temperature: 500 °F / 260 °C
Decomposition Temperature: No data
Specific Gravity (water=1): 0.81-0.88 @ 60°F (15.6°C)
Bulk Density: 7.08 lbs/gal
Viscosity: N/D
Solubility in Water: Negligible

Section 10: Stability and Reactivity

Reactivity: Stable under normal ambient and anticipated conditions of use.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Avoid high temperatures and all sources of ignition. Prevent vapor accumulation.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use.

Section 11: Toxicological Information

Information on Toxicological Effects of Substance/Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	Harmful if inhaled		4.65 mg/L (mist)
Dermal	Unlikely to be harmful		> 4.1 g/kg
Oral	Unlikely to be harmful		> 5 g/kg

Aspiration Hazard: May be fatal if swallowed and enters airways.

Skin Corrosion/Irritation: Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Causes mild eye irritation.

Symptoms of Overexposure: While significant vapor concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting.

Skin Sensitization: Not expected to be a skin sensitizer.

Respiratory Sensitization: No information available.

Specific Target Organ Toxicity (Single Exposure): Not expected to cause organ effects from single exposure.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure. Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoesis and lymphocyte depletion.

Carcinogenicity: Suspected of causing cancer. Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation.

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Reproductive Toxicity: Inadequate information available.

Other Comments: Diesel engine exhaust has been classified by the International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP) as a carcinogen.

Information on Toxicological Effects of Components

Naphthalene

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The US National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC and NTP.

Section 12: Ecological Information

GHS Classification:
H410 – Hazardous to the aquatic environment, chronic toxicity – Category 1
Very toxic to aquatic life with long lasting effects.

Toxicity: Experimental studies of gas oils show that acute aquatic toxicity values are typically in the range 2-20 mg/L. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions. They should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment.

Persistence and Degradability: Gas oils are complex combinations of individual hydrocarbon species. Based on the known or expected properties of individual constituents, category members are not predicted to be readily biodegradable. Some hydrocarbon constituents of gas oils are predicted to meet the criteria for persistence; on the other hand, some components can be easily degraded by microorganisms under aerobic conditions.

Persistence per IOPC Fund definition: Non-Persistent

Bioaccumulative Potential: Gas oil components have measured or calculated Log Kow values in the range of 3.9 to 6 which indicates a high potential to bioaccumulate. Lower molecular weight compounds are readily metabolized and the actual bioaccumulation potential of higher molecular weight compounds is limited by the low water solubility and large molecular size.

Mobility in Soil: Releases to water will result in a hydrocarbon film floating and spreading on the surface. For the lighter components, volatilization is an important loss process and reduces the hazard to aquatic organisms. In air, the hydrocarbon vapors react readily with hydroxyl radicals with half-lives of less than one day. Photoxidation on the water surface is also a significant loss process particularly for polycyclic aromatic compounds. In water, the majority of components will be adsorbed on sediment. Adsorption is the most predominant physical process on release to soil. Adsorbed hydrocarbons will slowly degrade in both water and soil.

Other Adverse Effects: None anticipated.

Section 13: Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic(s) shown below. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

Container contents should be completely used and containers should be emptied prior to discard. Container residues and rinseates could be considered to be hazardous wastes.

EPA Waste Number(s)
- D001 - Ignitability characteristic

Section 14: Transport Information

U.S. Department of Transportation (DOT)

Shipping Description: ***Aquatic toxicity studies indicate this material may be classified as a Marine Pollutant under IMDG Code. It is not currently regulated as a marine pollutant by the USDOT. If there is not a Shipping Description or other DOT marking, labeling, placarding and packaging references shown in this section, it is not regulated as a hazardous material by the USDOT.***

NA1993, Diesel fuel, Combustible liquid, III
Non-Bulk Package Marking: Not Regulated ***[49 CFR 173.150(f)(2)]***
Non-Bulk Package Labeling: Not Regulated ***[49 CFR 173.150(f)(2)]***
Bulk Package/Placard Marking: Combustible / 1993
Packaging - References: None; None; 49 CFR 173.241
(Exceptions; Non-bulk; Bulk)
Emergency Response Guide: 128
Note: ***May also be shipped as:*** UN1202, Diesel fuel, Combustible liquid,, III
Bulk Package/Placard Marking would also be changed to: 1202
Container(s) greater than 5 liters (liquids) or 5 kilograms (solids), shipped by water mode and ALL bulk shipments may require the shipping description to contain the "Marine Pollutant" notation [49 CFR 172.203(l)] and the container(s) to display the [Marine Pollutant Mark] [49 CFR 172.322].

International Maritime Dangerous Goods (IMDG)

Shipping Description: ***If flashpoint is >60° C closed-cup and the material meets the IMDG definition of a Marine Pollutant, an alternate shipping name such as "Environmentally hazardous substance, n.o.s." with hazard class 9 and PG III must be used.***
UN1202, Diesel fuel, 3, III, (FP° C cc), *[where FP is the material's flash point in degrees Celsius closed cup]*
Non-Bulk Package Marking: Diesel fuel, UN1202
Labels: Flammable liquid
Placards/Marking (Bulk): Flammable / 1202
Packaging - Non-Bulk: P001, LP01
EMS: F-E, S-E
Note: ***Proper Shipping name can be:*** Gas Oil *or* Diesel fuel ***or*** Heating Oil, light
If transported in bulk by marine vessel in international waters, product is being carried under the scope of MARPOL Annex I.
If container(s) is greater than 5 liters (liquids) or 5 kilograms (solids), shipment may require the shipping description to contain the "Marine Pollutant" description [IMDG 5.4.1.4.3.5] and the container(s) to display the Marine Pollutant mark [IMDG 5.2.1.6].

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #: ***Not regulated if flashpoint is >60° C closed-cup***
UN1202
Proper Shipping Name: Diesel fuel
Hazard Class/Division: 3
Packing Group: III
Non-Bulk Package Marking: Diesel fuel, UN1202
Labels: Flammable liquid
ERG Code: 3L
Note: ***If container(s) is greater than 5 liters (liquids) or 5 kilograms (solids), shipment may require the container to display the "Environmentally hazardous substance" mark [IATA 7.1.6.3].***

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	Y344	355	366
Max. Net Qty. Per Package:	10 L	60 L	220 L

Section 15 - Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health:	Yes
Chronic Health:	Yes
Fire Hazard:	Yes
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration	de minimis
Naphthalene	<1	0.1%

EPA (CERCLA) Reportable Quantity (in pounds):
EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

California Proposition 65:
Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Chemical Name	Type of Toxicity
Naphthalene	Cancer

Diesel engine exhaust is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

International Hazard Classification

Canada:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:
B3 - Combustible Liquids
D1B
D2A
D2B

National Chemical Inventories
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

Section 16 - Other Information

Date of Issue	Previous Issue Date	SDS Number	Status
17-Jan-2013	10-Aug-2012	001847	FINAL

Revised Sections or Basis for Revision:
Format change; Identified Hazards (Section 2); Precautionary Statement(s) (Section 2); Fire Fighting information (Section 5); Environmental hazards (Section 12)

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and Implied Warranties:
The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

ATTACHMENT I
EMISSIONS UNIT 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]
S1	E1	Hurst Dual-Fired Boiler #1	2011	10.043 MMBtu/hr	New	N/A
S1	E2	Hurst Dual-Fired Boiler #2	2011	10.043 MMBtu/hr	New	N/A
S3	E3	Cummins Emergency Generator	2008	900 kW	New	N/A

1 For Emission Units (or Sources), use the following number system: 1S, 2S, 3S,... or other appropriate designation.

2 For Emission Points, use the following number system: 1E, 2E, 3E,... or other appropriate designation.

3 New, modification, removal

4 For Control Devices, use the following number system: 1C, 2C, 3C,... or other appropriate designation.

ATTACHMENT J
EMISSIONS POINTS DATA SUMMARY SHEET

Attachment J

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions[4]		Maximum Potential Controlled Emissions[5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used[6]	Emission Concentration[7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
E1	Upward Vertical Stack	S1	Hurst Boiler #1	N/A	N/A	N/A	N/A	CO	0.47	2.0	0.47	2.0	Gas	Vendor	N/A
								NOx	1.84	8.1	1.84	8.1	Gas	Vendor	N/A
								PM	0.18	0.8	0.18	0.8	Solid	Vendor	N/A
								SO_2	1.32	5.8	1.32	5.8	Gas	Vendor	N/A
								VOC	0.48	2.1	0.48	2.1	Gas	Vendor	N/A
								Total HAPs	0.02	0.104	0.02	0.104	Gas	AP-42	N/A
								Hexane	0.024	0.099	0.024	0.099	Gas	AP-42	N/A
								CO_{2e}	2,055	9,001	2,055	9,001	Gas	40 CFR 98	N/A
E2	Upward Vertical Stack	S1	Hurst Boiler #2	N/A	N/A	N/A	N/A	CO	0.47	2.0	0.47	2.0	Gas	Vendor	N/A
								NOx	1.84	8.1	1.84	8.1	Gas	Vendor	N/A
								PM	0.18	0.8	0.18	0.8	Solid	Vendor	N/A
								SO_2	1.32	5.8	1.32	5.8	Gas	Vendor	N/A
								VOC	0.48	2.1	0.48	2.1	Gas	Vendor	N/A
								Total HAPs	0.02	0.104	0.02	0.104	Gas	AP-42	N/A
								Hexane	0.024	0.099	0.024	0.099	Gas	AP-42	N/A
								CO_{2e}	2,055	9,001	2,055	9,001	Gas	40 CFR 98	N/A
E3	Upward Vertical Stack	S3	Cummins Emerg. Generator	N/A	N/A	N/A	N/A	CO	0.63	0.2	0.63	0.2	Gas	Vendor	N/A
								NOx	22.57	5.6	22.57	5.6	Gas	Vendor	N/A
								PM	0.24	0.1	0.24	0.1	Solid	Vendor	N/A
								SO_2	1.09	0.3	1.09	0.3	Gas	AP-42	N/A
								VOC	0.57	0.1	0.57	0.1	Gas	Vendor	N/A
								Total HAPs	0.01	0.003	0.01	0.003	Gas	AP-42	N/A
								Benzene	0.007	0.002	0.007	0.002	Gas	AP-42	N/A
								CO_{2e}	623.4	155.8	623.4	155.8	Gas	40 CFR 98	N/A

ne 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
ıd 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
ented 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, 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
E1	2.25	300-400	5,052	21.2	2,544	64	4123321	479125
E2	2.25	300-400	5,052	21.2	2,544	64	4123321	479125
E3	1.00	900	6,945	147.4	2,544	15	4123336	479117

[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	N/A	N/A	N/A	N/A	N/A	N/A
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	N/A	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

Attachment L
Emission Unit Data Sheet
(INDIRECT HEAT EXCHANGER)

Control Device ID No. (must match List Form): N/A

Equipment Information

1. Manufacturer: HURST	2. Model No. SE-X-300-150 Serial No.
3. Number of units: 2 (E1 and E2)	4. Use Building heat, sterilization, humidification
5. Rated Boiler Horsepower: 300 hp	6. Boiler Serial No.: ES962-150-8 and ES962-150-9
7. Date constructed: August 31, 2011	8. Date of last modification and explain: N/A
9. Maximum design heat input per unit: 12.6 $\times 10^6$ BTU/hr	10. Peak heat input per unit: 12.6 $\times 10^6$ BTU/hr
11. Steam produced at maximum design output: 10,350 LB/hr 150 psig	12. Projected Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52
13. Type of firing equipment to be used: ☐ Pulverized coal ☐ Spreader stoker ☒ Oil burners ☒ Natural Gas Burner ☐ Others, specify	14. Proposed type of burners and orientation: ☐ Vertical ☒ Front Wall ☐ Opposed ☐ Tangential ☐ Others, specify
15. Type of draft: ☒ Forced ☐ Induced	16. Percent of ash retained in furnace: 0 %
17. Will flyash be reinjected? ☐ Yes ☒ No	18. Percent of carbon in flyash: 0 %

Stack or Vent Data

19. Inside diameter or dimensions: 2.25 ft.	20. Gas exit temperature: 300-400 °F
21. Height: 64 ft.	22. Stack serves: ☒ This equipment only ☐ Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
23. Gas flow rate: < 5,052 ft^3/min	
24. Estimated percent of moisture: Not known %	

Fuel Requirements

25. Type	Fuel Oil No.	Natural Gas	Gas (other, specify)	Coal, Type:	Other:
Quantity (at Design Output)	90 gph@60°F	12,600 ft³/hr	N/A ft³/hr	N/A TPH	
Annually	< 1 total ×10³ gal	168.61 total ×10⁶ ft³/hr	×10⁶ ft³/hr	tons	
Sulfur	Maximum: 0.1 wt. % Average: .008 wt. %	< 20 gr/100 ft³	gr/100 ft³	Maximum: wt. %	
Ash (%)	N/A	N/A		Maximum	
BTU Content	140,000 BTU/Gal. Lbs/Gal.@60°F	1,000 BTU/ft³	BTU/ft³	BTU/lb	
Source	Storage Tank	Pipeline			
Supplier	Oil Vendor	Utility			
Halogens (Yes/No)	No	No			
List and Identify Metals	N/A	N/A			

26. Gas burner mode of control:
☐ Manual ☐ Automatic hi-low
☒ Automatic full modulation ☐ Automatic on-off

27. Gas burner manufacture: Power Flame

28. Oil burner manufacture: Power Flame

29. If fuel oil is used, how is it atomized?
☐ Oil Pressure ☐ Steam Pressure
☒ Compressed Air ☐ Rotary Cup
☐ Other, specify

30. Fuel oil preheated: ☐ Yes ☒ No

31. If yes, indicate temperature: N/A °F

32. Specify the calculated theoretical air requirements for combustion of the fuel or mixture of fuels described above actual cubic feet (ACF) per unit of fuel:
Not known @ °F, PSIA, % moisture

33. Emission rate at rated capacity: see calculation spreadsheets lb/hr

34. Percent excess air actually required for combustion of the fuel described: 29% (gas), 72% (oil) %

Coal Characteristics

35. Seams: N/A

36. Proximate analysis (dry basis): % of Fixed Carbon: N/A; % of Sulfur: N/A; % of Moisture: N/A; % of Volatile Matter: N/A; % of Ash: N/A

Emissions Stream

37. What quantities of pollutants will be emitted from the boiler before controls?

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	0.47 (each on gas	N/A	N/A	N/A
Hydrocarbons	0.32 (each on gas	N/A	N/A	N/A
NO_x	0.88 (each on gas	N/A	N/A	N/A
Pb	0.0001 (each on gas)	N/A	N/A	N/A
PM_{10}	0.06 (each on gas)	N/A	N/A	N/A
SO_2	0.01 (each on gas)	N/A	N/A	N/A
VOCs	0.32 (each on gas)	N/A	N/A	N/A
Other (specify) HAP	0.02 (each on gas)	N/A	N/A	N/A
CO2e	1,473 (each on gas)	N/A	N/A	N/A

38. What quantities of pollutants will be emitted from the boiler after controls?

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	0.47 (each on gas)	N/A	N/A	N/A
Hydrocarbons	0.32 (each on gas)	N/A	N/A	N/A
NO_x	0.88 (each on gas)	N/A	N/A	N/A
Pb	0.0001 (each on gas)	N/A	N/A	N/A
PM_{10}	0.06 (each on gas)	N/A	N/A	N/A
SO_2	0.01 (each on gas)	N/A	N/A	N/A
VOCs	0.32 (each on gas)	N/A	N/A	N/A
Other (specify) HAP	0.02 (each on gas)	N/A	N/A	N/A
CO2e	1,473 (each on gas)	N/A	N/A	N/A

39. How will waste material from the process and control equipment be disposed of?
N/A

40. Have you completed an *Air Pollution Control Device Sheet(s)* for the control(s) used on this Emission Unit.

41. Have you included the ***air pollution rates*** on the Emissions Points Data Summary Sheet?

42. **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 PLAN: Please list (1) describe the process parameters and how they were chosen (2) the ranges and how they were established for monitoring to demonstrate compliance with the operation of this process equipment operation or air pollution control device.
None

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.
None

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.
BRMC will record the amount of natural gas and/or diesel fuel fired in the boilers on a monthly basis.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.
BRMC will provide WVDEP with two semi-annual reports that document the amount of each fuel (oil and natural gas) combusted in each boiler on a monthly basis, the calendar dates covered in the reporting period, the name of the oil supplier, a statement from the oil supplier that the oil complies with the fuel oil sulfur limits, the sulfur content or maximum sulfur content of the oil, and a certified statement that the records of fuel supplier certifications represent all of the fuel combusted during the reporting period.

43. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
None

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*):

1. Name or type and model of proposed affected source: 900 kW Cummins Emergency Generator - E3
2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.
3. Name(s) and maximum amount of proposed process material(s) charged per hour: 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: N/A

* 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:

Low sulfur diesel fuel - up to 60.2 gals/hr

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

< 0.1% sulfur

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

N/A @ N/A °F and N/A psia.

(d) Percent excess air: N/A

(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: 1,350 hp × 10^6 BTU/hr.

7. Projected operating schedule:

Hours/Day	1	Days/Week	1	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 60 °F and ambient psia

a.	NO_X	22.57 lb/hr	N/A	grains/ACF
b.	SO_2	1.09 lb/hr	N/A	grains/ACF
c.	CO	0.63 lb/hr	N/A	grains/ACF
d.	PM_{10}	0.24 lb/hr	N/A	grains/ACF
e.	Hydrocarbons	0.57 lb/hr	N/A	grains/ACF
f.	VOCs	0.57 lb/hr	N/A	grains/ACF
g.	Pb	N/A lb/hr	N/A	grains/ACF
h.	Specify other(s)			
	Total HAPs	0.01 lb/hr	N/A	grains/ACF
	CO2e	623.3 lb/hr	N/A	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
N/A	BRMC will record the hours of operation of the emergency generator every month.
REPORTING	TESTING
N/A	N/A

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

N/A

ATTACHMENT M
AIR POLLUTION CONTROL DATA SHEET

There are no air pollution control devices associated with the two dual-fired Hurst boilers and the 900 kW Cummins emergency generator. Therefore, Attachment M is not applicable to this NSR permit application.

ATTACHMENT N
SUPPORTING EMISSIONS CALCULATIONS

Emission Calculations for Dual-fired Small Boilers (0.3-100 MMBtu/hr)
Bluefield Regional Medical Center

Emission Calculations for Dual-Fired Commercial Heating Units (< 100 MMBtu/hr)

Emission Unit	Heating Unit	Rated Heat Input (Btu/hr)	Number at Location	Total Heat Input (Btu/hr)
E1	Hurst SE-X-300-150 Serial ES962-150-8	12,600,000	1	12,600,000
E2	Hurst SE-X-300-150 Serial ES962-150-9	12,600,000	1	12,600,000
Total, Dual Fired Heating Units				**25,200,000**

These identical heating units can be fired with heating oil or natural gas. Combined PTE for two units is calculated in Cells G68-G75.

Oil Firing Rate	90	gal/hr
Heat content of fuel -	140,000	BTU/gal
Sulfur content of fuel -	0.10	wt%

Natural Gas Firing Rate	12,600	ft^3/hr
Heat content of natural gas	1,000	BTU/ft^3

Natural Gas Emission factors from Power Flame Incorporated for CM burners

Constituent	Burner Specific Emission Factor	
CO	0.037	lb/MMBtu input
NOx	0.070	lb/MMBtu input
PM	0.0048	lb/MMBtu input
SO_2	0.0005	lb/MMBtu input
VOC, non-methane	0.025	lb/MMBtu input

GHG Emission factors from Natural Gas, from Table C-1 and C-2 to Subpart C of 40 CFR 98

Constituent	Emission Factor	
CO_2	53.02	kg/mmBtu
CH_4	1.0E-03	kg/mmBtu
N_2O	1.0E-04	kg/mmBtu

Oil Emission factors from Power Flame Incorporated for CM burners

Constituent	Burner Specific Emission Factor	
CO	0.037	lb/MMBtu input
NOx	0.146	lb/MMBtu input
PM	0.0143	lb/MMBtu input
SO_2	0.11	lb/MMBtu input
VOC, non-methane	0.038	lb/MMBtu input

GHG Emission factors from Petroleum, from Table C-1 and C-2 to Subpart C of 40 CFR 98

Constituent	Emission Factor	
CO_2	73.96	kg/mmBtu
CH_4	3.0E-03	kg/mmBtu
N_2O	6.0E-04	kg/mmBtu

Calculation of Criteria Pollutant Emission Rates

Constituent	Individual Gas Hourly Potential to Emit (lb/hr)	Total Gas Hourly Potential to Emit (lb/hr)	Individual Oil Hourly Potential to Emit (lb/hr)	Total Oil Hourly Potential to Emit (lb/hr)	Individual Annual Potential to Emit TPY	Total Annual Potential to Emit TPY
CO	**0.47**	0.93	**0.47**	0.93	2.0	4.1
NOx	0.88	1.76	**1.84**	3.68	8.1	16.1
PM	0.06	0.12	**0.18**	0.36	0.8	1.6
SO_2	0.01	0.01	**1.32**	2.65	5.8	11.6
VOC	0.32	0.63	**0.48**	0.96	2.1	4.2
CO_2	1,473.05	2,946.11	**2,054.83**	4,109.66	9,000.2	18,000.3
CH_4	0.03	0.06	**0.08**	0.17	0.4	0.7
N_2O	0.003	0.01	**0.02**	0.03	0.1	0.1

NOx, PM, SO_2, VOC, and CO_{2e} potentials are higher with oil and CO potentials are identical for both gas and oil

Calculation of Hourly PTE

Emission Factor (lb/MMBtu input) x Total Heat Input (MMBtu/hr) = Emissions (lb/hr)

Emission Factor (kg/mmBtu) x 2.205 lb/kg x Total Hourly Heat Input (mmBtu/hr) = Emissions (lb/hr)

Calculation of Annual PTE

Hourly PTE (lb/hr) x 8760 hr/yr / 2000 lb/ton = Potential Emissions (ton/yr)

Emission Calculations for Dual-fired Small Boilers (0.3-100 MMBtu/hr)
Bluefield Regional Medical Center

Emission Rate Calculations for HAPs

Emission factors were obtained from AP-42, Section 1.3, Tables 1.3-8, 1.3-10 Distillate Fuel Oil Combustion Sources (9/98).

Constituent	Emission Factor ($lb/10^3$ gal)	Individual Potential Potential to Emit (lb/hr)	Total Potential Potential to Emit (lb/hr)	Individual Potential Potential to Emit (ton/yr)	Total Potential Potential to Emit (ton/yr)
Formaldehyde	0.061	**5.5E-03**	**1.1E-02**	0.024	0.048
Polycyclic Organic Matter	0.003	**3.0E-04**	**5.9E-04**	0.001	0.003
Total		**5.8E-03**	**1.2E-02**	**0.025**	**0.051**

Constituent	Emission Factor ($lb/10^{12}$ BTU)	Individual Potential Potential to Emit (lb/hr)	Total Potential Potential to Emit (lb/hr)	Individual Potential Potential to Emit (ton/yr)	Total Potential Potential to Emit (ton/yr)
Arsenic	4	**5.0E-05**	**1.0E-04**	2.21E-04	4.42E-04
Beryllium	3	**3.8E-05**	**7.6E-05**	1.66E-04	3.31E-04
Cadmium	3	**3.8E-05**	**7.6E-05**	1.66E-04	3.31E-04
Chromium	3	**3.8E-05**	**7.6E-05**	1.66E-04	3.31E-04
Lead	9	**1.1E-04**	**2.3E-04**	4.97E-04	9.93E-04
Mercury	3	**3.8E-05**	**7.6E-05**	1.66E-04	3.31E-04
Manganese	6	**7.6E-05**	**1.5E-04**	3.31E-04	6.62E-04
Nickel	3	**3.8E-05**	**7.6E-05**	1.66E-04	3.31E-04
Selenium	15	**1.9E-04**	**3.8E-04**	8.28E-04	1.66E-03
Total		**6.2E-04**	**1.2E-03**	**2.7E-03**	**5.4E-03**

Emission factors were obtained from AP-42, Section 1.4, Tables 1.4-3, 1.4-4 Natural Gas Combustion

Constituent	Emission Factor ($lb/10^6$ ft^3)	Individual Potential Potential to Emit (lb/hr)	Total Potential Potential to Emit (lb/hr)	Individual Potential Potential to Emit (ton/yr)	Total Potential Potential to Emit (ton/yr)
Arsenic	2.0E-04	2.5E-06	5.04E-06	1.10E-05	2.21E-05
Beryllium	1.2E-05	1.5E-07	3.02E-07	6.62E-07	1.32E-06
Cadmium	1.1E-03	1.4E-05	2.77E-05	6.07E-05	1.21E-04
Chromium	1.4E-03	1.8E-05	3.53E-05	7.73E-05	1.55E-04
Cobalt	8.4E-05	**1.1E-06**	**2.12E-06**	4.64E-06	9.27E-06
Lead	5.0E-04	6.3E-06	1.26E-05	2.76E-05	5.52E-05
Manganese	3.8E-04	4.8E-06	9.58E-06	2.10E-05	4.19E-05
Mercury	2.6E-04	3.3E-06	6.55E-06	1.43E-05	2.87E-05
Nickel	2.1E-03	2.6E-05	5.29E-05	1.16E-04	2.32E-04
Selenium	2.4E-05	3.0E-07	6.05E-07	1.32E-06	2.65E-06
Benzene	2.1E-03	**2.6E-05**	**5.29E-05**	1.16E-04	2.32E-04
Dichlorobenzene	1.2E-03	**1.5E-05**	**3.02E-05**	6.62E-05	1.32E-04
Formaldehyde	7.5E-02	**9.5E-04**	**1.89E-03**	4.14E-03	8.28E-03
Hexane	1.8E+00	**2.3E-02**	**4.54E-02**	9.93E-02	1.99E-01
Napthalene	6.1E-04	**7.7E-06**	**1.54E-05**	3.37E-05	6.73E-05
Polycyclic Organic Matter	8.8E-05	**1.1E-06**	**2.22E-06**	4.87E-06	9.74E-06
Toluene	3.4E-03	**4.3E-05**	**8.57E-05**	1.88E-04	3.75E-04
Total		**0.02**	**0.05**	**0.10**	**0.21**

Although some of the individual HAPs have a higher PTE with oil, total HAPs have a higher potential with natural gas

Calculation of Hourly PTE

Emission Factor (lb/1000 gal) x Oil Firing Rate (gal/hr) = Emissions (lb/hr)

Emission Factor ($lb/10^{12}$ BTU) x Heat Input (Btu/hr) = Emissions (lb/hr)

Emission Factor (lb/1,000,000 ft^3) x Gas Firing Rate (ft^3/hr) = Emissions (lb/hr)

Calculation of Annual PTE

Hourly PTE (lb/hr) x 8760 hr/yr = Potential Emissions (lb/yr)

Emission Calculations for Diesel Generators > 600 HP
Bluefield Regional Medical Center

Emission Calculations for Diesel Generators > 600 HP

Emission Unit	Generating Unit	Gross Engine Power Output	
		(kw)	(hp)
E3	Cummins QST30-G3	1,007	1,351
Total:		**1,007**	**1,351**

Oil Firing Rate	60.2	gal/hr
Heat content of fuel -	140,000	BTU/gal
Sulfur content of fuel -	0.10	wt%

Emission Factors from Cummins Exhaust Emission Data Sheet and from AP-42, Section 3.4. Tables 3.4-1

Constituent	Emission Factor	
CO	0.21	g/hp-hr
NOx	7.58	g/hp-hr
PM	0.08	g/hp-hr
SO_2[1]	0.37	g/hp-hr
VOC	0.19	g/hp-hr

[1] The SO_2 AP-42 emission factor is in the units of lb/hp-hr and was converted to g/hp-hr

GHG Emission factors, from Table C-1 and C-2 to Subpart C of 40 CFR 98

Constituent	Emission Factor	
CO_2	73.96	kg/MMBtu
CH_4	3.0E-03	kg/MMBtu
N_2O	6.0E-04	kg/MMBtu

Calculation of Criteria Pollutant Emissions

Constituent	Emergency Gen. Hourly PTE (lb/hr)	Annual Restricted Potential to Emit[1] TPY	Annual Unrestricted Potential to Emit TPY
CO	0.63	0.2	2.7
NOx	22.57	5.6	98.8
PM	0.24	0.1	1.0
SO_2	1.09	0.3	4.8
VOC	0.57	0.1	2.5
CO_2	623.33	155.8	2,730.2
CH_4	0.03	0.01	0.1
N_2O	0.01	0.001	0.02

[1] Annual restricted potential to emit is based on 500 hr/yr for emergency generators.

Calculation of Hourly PTE:
Emission Factor (g/hp-hr) x Engine Power Output (hp) / 453.6 g/lb = Emissions (lb/hr)
Emission Factor (kg/mmBtu) x 2.205 lb/kg x Total Hourly Heat Input (mmBtu/hr) = Emissions (lb/hr)

Calculation of Annual Restricted PTE:
Hourly PTE (lb/hr) x 500 hr/yr = Emissions (lb/hr)

Calculation of Annual Unrestricted PTE:
Hourly PTE (lb/hr) x 8,760 hr/yr = Emissions (lb/hr)

Calculation of HAP Emissions
HAP constituent emission factors obtained from AP-42, Section 3.4, Table 3.4-3

Constituent	Emission Factor (lb/MMBtu)	Emergency Gen: Hourly PTE (lb/hr)	Annual Restricted Potential to Emit[1] TPY	Annual Unrestricted Potential to Emit TPY
Acetaldehyde	2.52E-05	2.12E-04	5.31E-05	9.30E-04
Acrolein	7.88E-06	6.64E-05	1.66E-05	2.91E-04
Benzene	7.76E-04	6.54E-03	1.64E-03	2.86E-02
Formaldehyde	7.89E-05	6.65E-04	1.66E-04	2.91E-03
Naphthalene	1.30E-04	1.10E-03	2.74E-04	4.80E-03
Toluene	2.81E-04	2.37E-03	5.92E-04	1.04E-02
Xylenes	1.93E-04	1.63E-03	4.07E-04	7.12E-03
Total:		**0.01**	**0.003**	**0.06**

[1] Annual restricted potential to emit is based on 500 hr/yr for emergency generators.

Calculation of Hourly PTE:
Emission Factor (lb/MMBtu) x Heat Content of Fuel (MMBtu/gal) x Fuel Firing Rate (gal/hr) = Emissions (lb/hr)

Calculation of Annual Restricted PTE:
Hourly PTE (lb/hr) x 500 hr/yr = Emissions (lb/hr)

Calculation of Annual Unrestricted PTE:
Hourly PTE (lb/hr) x 8,760 hr/yr = Emissions (lb/hr)

Summary of Stationary Source Potential Emissions Bluefield Regional Medical Center							
	Annual Potential Emissions[1] (tons/yr)						
Activities	**CO**	**NOx**	**PM**	**SO_2**	**VOCs**	**HAPs**	**CO_{2e}**
Combustion Sources							
Hurst Dual-Fired Boiler #1 - E1	2.0	8.1	0.8	5.8	2.1	0.1	9,000.6
Hurst Dual-Fired Boiler #1 - E2	2.0	8.1	0.8	5.8	2.1	0.1	9,000.6
900 kW Cummins Emergency Generator - E3	0.2	5.6	0.1	0.3	0.1	0.003	155.8
Total, Stationary Sources, ton/yr	**4.2**	**21.8**	**1.6**	**11.9**	**4.3**	**0.2**	**18,157.0**

[1] Potential emissions are based on 8,760 hours per year for the boilers and 500 hours per year for the emergency generator

ATTACHMENT O
MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS

See information provided in the boiler and emergency generator emission sheets located in Attachment L.

ATTACHMENT P
PUBLIC NOTICE

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Bluefield Regional Medical Center has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Construction Permit for two boilers and an emergency generator located on 500 Cherry Street in Bluefield, in Mercer County, West Virginia. The latitude and longitude coordinates are 37.256 °N and -81.235 °E.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: 21.8 tons per year nitrogen oxides, 4.2 tons per year carbon monoxide, 18,157 tons per year carbon dioxide equivalent emissions, 4.3 tons per year volatile organic compounds, 1.6 tons per year particulate matter, 11.9 tons per year sulfur dioxide, and 0.2 tons per year hazardous air pollutants.

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

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

Dated this the 10th day of December 2014.

By: Bluefield Regional Medical Center
Richard Cox
Director of Facilities
500 Cherry Street
Bluefield, West Virginia 24701

ATTACHMENT Q
BUSINESS CONFIDENTIAL CLAIMS

This permit application does not contain business confidential information. Therefore, Attachment Q is not applicable to this NSR permit application.

ATTACHMENT R
AUTHORITY FORMS

This NSR application has been signed by Bluefield Regional Medical Center's Responsible Official. Therefore, Attachment R is not applicable to this NSR permit application.

ATTACHMENT S
TITLE V PERMIT REVISION INFORMATION

Bluefield Regional Medical Center is not subject to the Title V Operating Permit program. Therefore, Attachment S is not applicable to this NSR permit application.