CLASS I ADMINISTRATIVE UPDATE

R13-1772G & R30-03900057-2012

Charleston Area Medical Center
General Division
Charleston, Kanawha County, West Virginia

Prepared for:
Charleston Area Medical Center, Inc.
3200 MacCorkle Avenue, SE
Charleston, West Virginia 25304

Prepared by:
Triad Engineering, Inc.
10541 Teays Valley Road
Scott Depot, West Virginia 25560

July 2015

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):*
Charleston Area Medical Center, Inc.

2. Federal Employer ID No. ***(FEIN):***
5-5-05-2-6-1-5-0

3. Name of facility *(if different from above):*
CAMC General Hospital

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

5A. Applicant's mailing address:
3200 MacCorkle Avenue, SE
Charleston, West Virginia 25304

5B. Facility's present physical address:
501 Morris Street
Charleston, West Virginia 25301

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: **CAMC Health System, Inc.**

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: **The applicant owns 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.):
Boiler plant upgrade.

10. North American Industry Classification System **(NAICS)** code for the facility:
62211

11A. DAQ Plant ID No. (for existing facilities only):
0 3 9 – 0 0 0 5 7

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-1772G
R30-03900057-2012

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 Interstate 64, exit at Leon Sullivan Way (Exit 100) toward Washington Street (US Route 60). From Leon Sullivan Way, turn left onto Washington Street (US Route 60, East). Turn left onto Sentz Street. Drive approximately 450 feet and incinerator building is on the right.

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
Not Applicable	**Charleston**	**Kanawha**
12.E. UTM Northing (KM): **4244.56**	12F. UTM Easting (KM): **445.19**	12G. UTM Zone: **17**

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

Removal of two Cleaver Brooks boilers (10.46 MMBtu/hr each), removal of burners from two Keeler boilers (15 MMBtu/hr each). Installation of three Hurst 400 HP boilers (16.3 MMBtu/hr each), and one Cleaver Brooks boiler (19.9 MMBtu/hr). The Cleaver Brooks boiler will be removed at the completion of construction. Boiler plant efficiency will be improved. Emissions will be reduced.

14A. Provide the date of anticipated installation or change: **07/2015** – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: **See Attachment C.**	14B. Date of anticipated Start-Up if a permit is granted: **08/01/2015**

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		

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. Not Applicable**

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 Glenn Crotty Jrs (Please use blue ink) DATE: 7/17/18 (Please use blue ink)

35B. Printed name of signee: **Dr. Glenn Crotty, Jr., MD**		35C. Title: **Executive VP & COO**
35D. E-mail: **Glenn.Crotty@camc.org**	36E. Phone: **304.388.7647**	36F. FAX: **304.388.7696**
36A. Printed name of contact person (if different from above): **Nanci Keenan**		36B. Title: **Safety Manager**
36C. E-mail: **Nanci.Keenan@camc.org**	36D. Phone: **304.388.8890**	36E. FAX: **304.388.8891**

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:
CHARLESTON AREA MEDICAL CENTER INC
DBA CHARLESTON AREA MEDICAL CENTER
PO BOX 1547
CHARLESTON, WV 25326-1547

BUSINESS REGISTRATION ACCOUNT NUMBER: 1035-7157

This certificate is issued on: 08/11/2010

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.

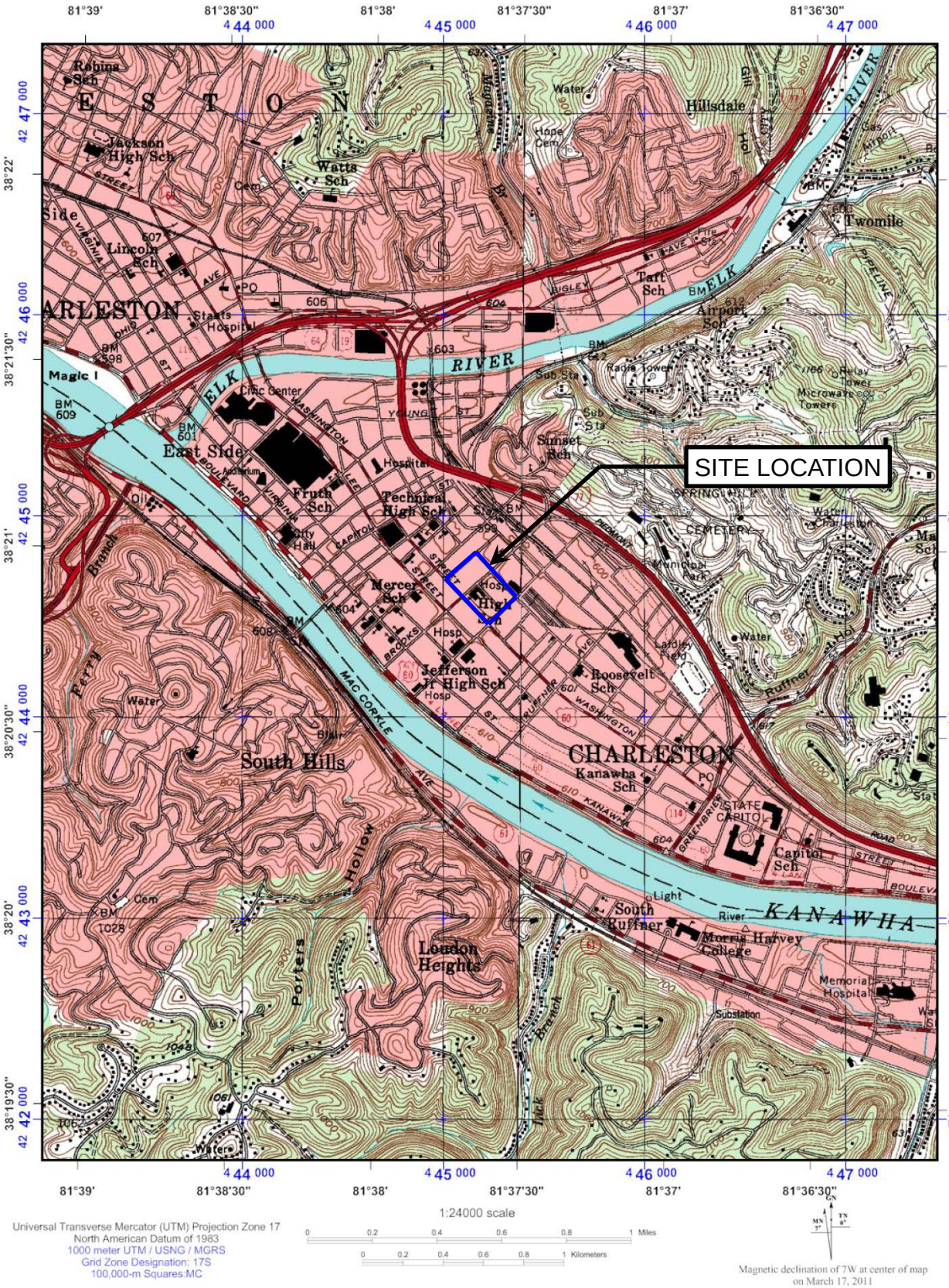
Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

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.3
L0708060928

Attachment B

Area Map



CADD FILE: NA	LOCATION MAP CHARLESTON AREA MEDICAL CENTER GENERAL DIVISION – CLASS I ADMINISTRATIVE UPDATE CHARLESTON, KANAWHA COUNTY, WV	TRIAD ENGINEERING, INC. www.triadeng.com 10541 TEAYS VALLEY ROAD SCOTT DEPOT, WV 25560
DRAWN BY: ANC / CHECKED BY: SLC		
DATE: 07/09/15 / SCALE: 1:1	PROJECT No.: FIGURE No.: B	

Attachment C

Installation and Start Up Schedule

Attachment C – Schedule of Installation/Start-Up

The Cleaver Brooks boiler is a temporary boiler installed in April 30, 2014 and permitting for that boiler is after-the-fact. The boiler will supply steam during demolition and construction of the new boiler facilities. After completion of construction, the Cleaver Brooks boiler will be removed. During construction, the Cleaver Brooks boiler will replace two of the Hurst Boilers.

One Hurst Boiler is temporarily installed and will be relocated to the boiler plant during the construction. The temporary installation for that boiler is after-the-fact. The permanent installation is a future event.

The two new Hurst boilers and the permanent placement of the temporarily installed new Hurst boiler are planned for completion between July 25 and August 14, 2015. Start-up will occur immediately after construction upon receipt of authorization from WVDEP.

Attachment D

Regulatory Discussion

Attachment D – Regulatory Discussion

Permit conditions under WVDEP rules are expected to be the same as the current permit conditions. The new boilers are subject to 40 CFR 60, Subpart Dc (NSPS), and 40 CFR 63, Subpart JJJJJJ (NESHAP). New permit conditions will be required for these regulations. The pertinent provisions of Subpart Dc and Subpart JJJJJJ are included below.

New Source Performance Standard, 40 CFR 60, Subpart Dc Applicable Provisions

§60.40c Applicability and delegation of authority.

This subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

§60.42c Standard for sulfur dioxide (SO_2).

(d) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under §60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

§60.43c Standard for particulate matter (PM).

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under §60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2 emissions is not subject to the PM limit in this section.

§60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(h) For affected facilities subject to §60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in §60.48c(f), as applicable.

§60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by §60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(d) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in §60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(2) As an alternative to daily recording of fuel use amounts, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO_2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to daily recording of fuel use amounts, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in §60.42C to use fuel certification to demonstrate compliance with the SO_2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

National Emission Standards for Hazardous Air Pollutants Subpart JJJJJJ Applicable Provisions

Requirements from 40 CFR 63, Subpart JJJJJJ applicable to new, oil-fired boilers with greater than 10 MMBtu/hr heat input, and with continuous oxygen trim, combusting only oil with less than 0.50 weight percent sulfur.

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§63.11196 What are my compliance dates?

(c) If you start up a new affected source after May 20, 2011, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

§63.11201 What standards must I meet?

(b) You must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to this subpart that applies to your boiler.

Table 2 to Subpart JJJJJJ of Part 63—Work Practice Standards, Emission Reduction Measures, and Management Practices

If your boiler is in this subcategory . . .	**You must meet the following . . .**
1. Existing or new oil-fired boilers (units with heat input capacity of 10 MMBtu/hr or greater)	Minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If manufacturer's recommended procedures are not available, you must follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
15. New oil-fired boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up	Conduct a tune-up of the boiler every 5 years as specified in §63.11223.

(d) These standards apply at all times the affected boiler is operating.

§63.11205 What are my general requirements for complying with this subpart?

(a) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

§63.11210 What are my initial compliance requirements and by what date must I conduct them?

(e) For new or reconstructed oil-fired boilers that combust only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM emission limit under this subpart and that do not use a post-combustion technology (except a wet scrubber) to reduce particulate matter (PM) or sulfur dioxide emissions, you are not subject to the PM emission limit in Table 1 of this subpart providing you monitor and record on a monthly basis the type of fuel combusted.

(f) For new or reconstructed affected boilers that have applicable work practice standards or management practices, you are not required to complete an initial performance tune-up, but you are required to complete the applicable biennial or 5-year tune-up as specified in §63.11223 no later than 25 months or 61 months, respectively, after the initial startup of the new or reconstructed affected source.

§63.11223 How do I demonstrate continuous compliance with the work practice and management practice standards?

(a) For affected sources subject to the work practice standard or the management practices of a tune-up, you must conduct a performance tune-up according to paragraph (b) of this section and keep records as required in §63.11225(c) to demonstrate continuous compliance. You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

(c) Boilers with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up must conduct a tune-up of the boiler every 5 years as specified in paragraphs (b)(1) through (7) of this section. Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up. For a new or reconstructed boiler with an oxygen trim system, the first 5-year tune-up must be no later than 61 months after the initial startup. You may delay the burner inspection specified in paragraph (b)(1) of this section and inspection of the system controlling the air-to-fuel ratio specified in paragraph (b)(3) of this section until the next scheduled unit shutdown, but you must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

Paragraph (b) is superceded by paragraph (c) for general conditions, specific provisions follow:

(b)(1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

(b)(2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.

(b)(3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.

(b)(4) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.

(b)(5) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

(b)(6) Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of this section.

(i) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.

(ii) A description of any corrective actions taken as a part of the tune-up of the boiler.

(iii) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

(7) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

§63.11225 What are my notification, reporting, and recordkeeping requirements?

(a) You must submit the notifications specified in paragraphs (a)(1) through (5) of this section to the administrator.

(1) You must submit all of the notifications in §§63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to you by the dates specified in those sections except as specified in paragraphs (a)(2) and (4) of this section.

(2) An Initial Notification must be submitted within 120 days after the source becomes subject to the standard.

(4) You must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in §63.11196. You must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of this section. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of this section, as applicable, and signed by a responsible official.

(i) You must submit the information required in §63.9(h)(2), except the information listed in §63.9(h)(2)(i)(B), (D), (E), and (F).

(v) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(vi) The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in §63.13.

(b) You must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of this section. You must submit the report by March 15 if you had any instance described by paragraph (b)(3) of this section. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up according to §63.11223(a) and not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report as specified in paragraphs (b)(1) and (2) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) “This facility complies with the requirements in §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”

(ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”

(iii) “This facility complies with the requirement in §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.”

(3) If the source experiences any deviations from the applicable requirements during the reporting period, include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.

(4) The total fuel use by each affected boiler subject to an emission limit, for each calendar month within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by you or EPA through a petition process to be a non-waste under §241.3(c), whether the fuel(s) were processed from discarded non-hazardous secondary materials within the meaning of §241.3, and the total fuel usage amount with units of measure.

(c) You must maintain the records specified in paragraphs (c)(1) through (7) of this section.

(1) As required in §63.10(b)(2)(xiv), you must keep a copy of each notification and report that you submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted.

(2) You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by §63.11214 and §63.11223 as specified in paragraphs (c)(2)(i) through (vi) of this section.

(i) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.

(iv) For each boiler subject to an emission limit in Table 1 to this subpart, you must also keep records of monthly fuel use by each boiler, including the type(s) of fuel and amount(s) used.

(4) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

(d) Your records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

Attachment E

Plot Plan

TRIAD ENGINEERING, INC.
10541 TEAYS VALLEY ROAD
SCOTT DEPOT, WV 25560
PH: 304.755.0721 FAX: 304.755.1880
OFFICE LOCATIONS
MARYLAND ○ PENNSYLVANIA ○ VIRGINIA ○ WEST VIRGINIA ○ OHIO

CADD FILE: NA	PROJECT No.: 04-15-0129	DRAWN BY: SSW	CHECKED BY: SLC
		DATE: 7/09/2015	SCALE: as shown

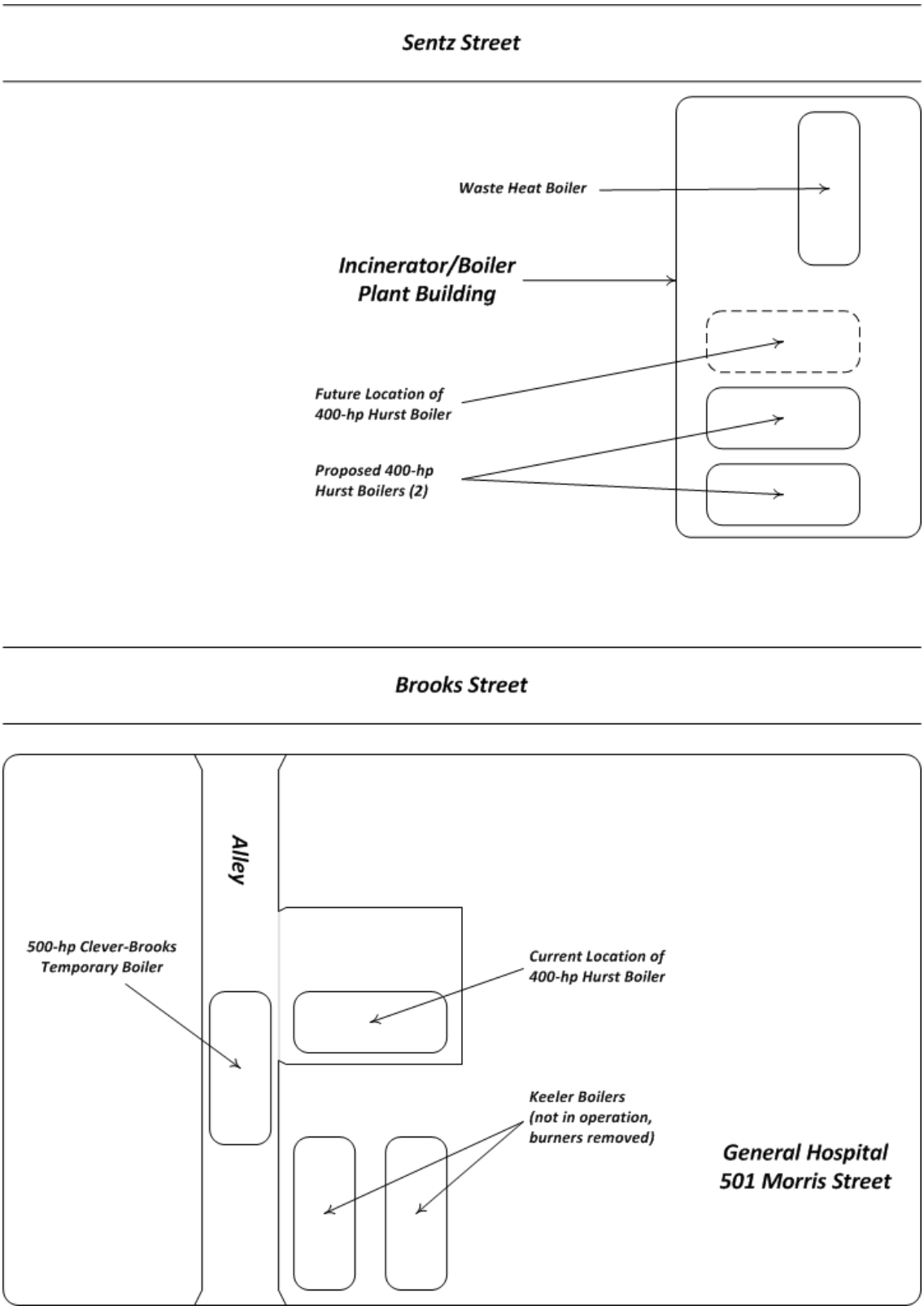
CHARLESTON AREA MEDICAL CENTER
GENERAL DIVISION -
CLASS I ADMINISTRATIVE UPDATE
CHARLESTON, KANAWHA COUNTY, WV

PLOT PLAN

TRIAD ENGINEERING, INC.
www.triadeng.com

FIGURE No.:
E1

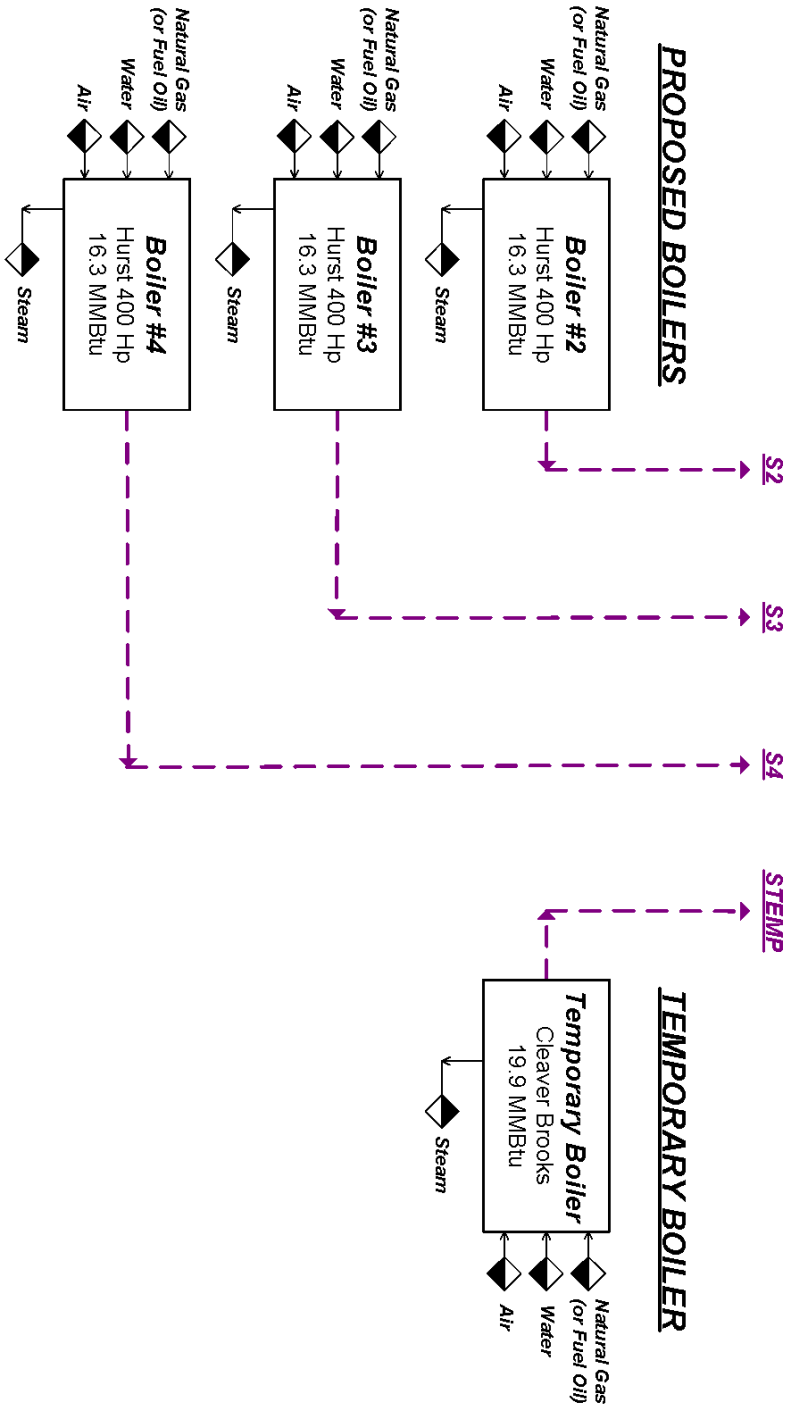
PROJECT No.: 04-15-0129



CADD FILE: NA		PLOT PLAN DETAIL CHARLESTON AREA MEDICAL CENTER GENERAL DIVISION – CLASS I ADMINISTRATIVE UPDATE CHARLESTON, KANAWHA COUNTY, WV	TRIAD ENGINEERING, INC. www.triadeng.com 10541 TEAYS VALLEY ROAD SCOTT DEPOT, WV 25560
DRAWN BY: SSW	CHECKED BY: SLC		
DATE: 07/20/15	SCALE: 1:1	PROJECT No.:	FIGURE No.: E2

Attachment F

Process Flow Diagram



CADD FILE: NA	PROCESS FLOW DIAGRAM CHARLESTON AREA MEDICAL CENTER GENERAL DIVISION – CLASS I ADMINISTRATIVE UPDATE CHARLESTON, KANAWHA COUNTY, WV	TRIAD ENGINEERING, INC. www.triadeng.com 10541 TEAYS VALLEY ROAD SCOTT DEPOT, WV 25560
DRAWN BY: ANC / CHECKED BY: SLC		
DATE: 07/10/15 / SCALE: 1:1	PROJECT No.: 04-15-0129 FIGURE No.: F	

Attachment G

Process Description

Attachment G – Process Description

This Class I Administrative Update outlines Charleston Area Medical Center – General Division's need to remove two Cleaver Brooks boilers (10.46 MMBtu/hr each), removal of burners from two Keeler boilers (15 MMBtu/hr each) and install three Hurst 400 HP boilers (Boilers 2, 3, and 4) and current use of a temporary Cleaver Brooks boiler (T-Boiler). The Cleaver Brooks boiler will be removed at the completion of construction. The new boilers will be vented through double wall stacks and the temporary boiler is vented through its designated stack (TBS) (See Process Flow Diagram). The boilers are to be equipped with dual-fuel burners firing either natural gas or No. 2 fuel oil, but with No. 2 fuel oil to be fired only on an as-needed basis. No. 2 fuel oil firing will not exceed 500 hours per year. Emissions from the combustion of the fuel and natural gas supply will be vented to the atmosphere through their corresponding stacks as outlined above and on the Process Flow Diagram.

Attachment H

Material Safety Data Sheets

SAFETY DATA SHEET

SDS ID NO.: 0293MAR019
Revision Date: 05/14/2015

1. IDENTIFICATION

Product Name: Marathon Petroleum No. 2 Ultra Low Sulfur Diesel 15 ppm Sulfur Max with 2-5% Biodiesel

Synonym: Ultra Low Sulfur No. 2 Diesel with B2 Biodiesel; Ultra Low Sulfur No. 2 Diesel with B2 Biodiesel and Polar Plus; Ultra Low Sulfur No. 2 Diesel with B5 Biodiesel; Ultra Low Sulfur No. 2 Diesel with B5 Biodiesel and Polar Plus; No. 2 Diesel with Biodiesel B2 Blend 15 ppm Sulfur Max; No. 2 Diesel with Biodiesel B2 Blend 15 ppm Sulfur Max with Polar Plus; No. 2 Diesel with Biodiesel B5 Blend 15 ppm Sulfur Max; No. 2 Diesel with Biodiesel B5 Blend 15 ppm Sulfur Max with Polar Plus

Chemical Family: Complex Hydrocarbon Substance

Recommended Use: Fuel.
Use Restrictions: All others.

Supplier Name and Address:

MARATHON PETROLEUM COMPANY LP
539 South Main Street
Findlay, OH 45840

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)
Static accumulating flammable liquid

Label elements

EMERGENCY OVERVIEW

Danger

FLAMMABLE LIQUID AND VAPOR
May accumulate electrostatic charge and ignite or explode
May be fatal if swallowed and enters airways
Harmful if inhaled
Causes skin irritation
May cause an allergic skin reaction
May cause drowsiness or dizziness
Suspected of causing cancer
May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
Toxic to aquatic life with long lasting effects

Appearance Clear or Amber Liquid **Physical State** Liquid **Odor** Slight Hydrocarbon

Precautionary Statements - Prevention
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 container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Use explosion-proof electrical/ventilating/lighting/equipment
Take precautionary measures against static discharge
Do not breathe mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Wash hands and any possibly exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Avoid release to the environment

Precautionary Statements - Response
IF exposed or concerned: Get medical attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation or rash occurs: Get medical attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use water spray, fog or regular foam for extinction
Collect spillage

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

No. 2 Diesel with Biodiesel is a complex mixture of paraffins, olefins and aromatic hydrocarbons having hydrocarbon chain lengths predominantly in the range of eleven to twenty carbons. Contains a minor amount (2-5%) of Biodiesel that does not materially affect the health or safety of this product. May contain a trace amount of benzene (<0.01%). Contains a small amount of a lubricity additive (<0.1%) which is not considered hazardous at the concentration used. Contains a trace amount of sulfur (<0.0015%)

Composition Information:

Name	CAS Number	Weight %
No. 2 Diesel Fuel	68476-34-6	49-98
Kerosine, Petroleum	8008-20-6	0-49
Fuels, Diesel, C9-18-Alkane Branched and Linear	1159170-26-9	0-5
Biodiesel (Tallow derived)	61788-61-2	0-5
Biodiesel (Soybean derived)	67784-80-9	0-5
Biodiesel (Rapeseed derived)	73891-99-3	0-5
Biodiesel (Fatty Acid, Methyl Ester)	68937-84-8	0-5
Biodiesel (Canola derived)	129828-16-6	0-5
Alkanes, C10-C20 branched and linear	928771-01-1	0-5
Naphthalene	91-20-3	0.01-0.5

4. FIRST AID MEASURES

First Aid Measures

General advice — In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation: — Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact: — Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Get medical attention if irritation or rash occurs. Any injection injury from high pressure equipment should be evaluated immediately by a physician as potentially serious (See NOTES TO PHYSICIAN).

Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Destroy contaminated, non-chemical resistant footwear.

Eye Contact: — Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. GET IMMEDIATE MEDICAL ATTENTION.

Ingestion: — Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse Effects: Acute: Headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Delayed: Dry skin and possible irritation with repeated or prolonged exposure.

Indication of any immediate medical attention and special treatment needed

NOTES TO PHYSICIAN: SKIN: Leaks or accidents involving high-pressure equipment may inject a stream of material through the skin and initially produce an injury that may not appear serious. Only a small puncture wound may appear on the skin surface but, without proper treatment and depending on the nature, original pressure, volume, and location of the injected material, can compromise blood supply to an affected body part. Prompt surgical debridement of the wound may be necessary to prevent irreversible loss of function and/or the affected body part. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES.

INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. The metabolism of fatty acid methyl ester may release free methanol in the body that could induce metabolic acidosis with delayed effects. If a large amount of product is ingested, i.e. several ounces, consider the use of ethanol or fomepizole (Antizol) and hemodialysis. Consult standard literature or contact a poison control center for treatment details.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media
Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical
This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Hazardous combustion products
Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data
Sensitivity to Mechanical Impact No.
Sensitivity to Static Discharge Yes.

Special protective equipment and precautions for firefighters
Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

NFPA: Health 1 Flammability 2 Instability 0 Special Hazards -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.

Protective Equipment: Use personal protection measures as recommended in Section 8.

Emergency Procedures:	Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.
Environmental precautions:	Avoid release to the environment. Avoid subsoil penetration.
Methods and materials for containment:	Contain liquid with sand or soil.
Methods and materials for cleaning up:	Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. When recovering free liquids ensure all equipment is grounded and bonded. Use only non-sparking tools.

7. HANDLING AND STORAGE

Safe Handling Precautions:

NEVER SIPHON THIS PRODUCT BY MOUTH. Use appropriate grounding and bonding practices. Static accumulating flammable liquid. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking. Avoid repeated and prolonged skin contact. Use personal protection measures as recommended in Section 8. Use only non-sparking tools. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignition of vapors or mists without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

Portable containers should never be filled while in or on a motor vehicle or marine craft. Containers should be placed on the ground. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers.

A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling.

Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

High-pressure injection of any material through the skin is a serious medical emergency even though the small entrance wound at the injection site may not initially appear serious. These injection injuries can occur from high-pressure equipment such as paint spray or grease or guns, fuel injectors, or pinhole leaks in hoses or hydraulic lines and should all be considered serious. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES (See First Aid Section 4).

Storage Conditions: Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area.

Incompatible materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELS:	OSHA - Vacated PELs	NIOSH IDLH
No. 2 Diesel Fuel 68476-34-6	100 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-	-
Kerosine, Petroleum 8008-20-6	200 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-	-
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	-	-
Biodiesel (Tallow derived) 61788-61-2	-	-	-	-
Biodiesel (Soybean derived) 67784-80-9	-	-	-	-
Biodiesel (Rapeseed derived) 73891-99-3	-	-	-	-
Biodiesel (Fatty Acid, Methyl Ester) 68937-84-8	-	-	-	-
Biodiesel (Canola derived) 129828-16-6	-	-	-	-
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	-	-
Naphthalene 91-20-3	10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 10 ppm TWA: 50 mg/m³	10 ppm TWA 50 mg/m³ TWA 15 ppm STEL 75 mg/m³ STEL	250 ppm

Notes: The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

Engineering measures: Local or general exhaust required in an enclosed area or with inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection: Use goggles or face-shield if the potential for splashing exists.

Skin and body protection: Wear neoprene, nitrile or PVA gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection: Use an approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible exposure limits or excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear or Amber Liquid
Color	Clear or Amber
Odor	Slight Hydrocarbon
Odor Threshold	No available data.

Property	**Values (Method)**
Melting Point / Freezing Point	No available data.
Initial Boiling Point / Boiling Range	204-338 °C / 400-640 °F
Flash Point	54-88 °C / 130-190 °F
Evaporation Rate	No available data.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%)	
Upper Flammability Limit:	5.0
Lower Flammability Limit:	0.7
Vapor Pressure	1-10 mm Hg @ 20°C
Vapor Density	4-5
Specific Gravity / Relative Density	C.A. 0.8
Water Solubility	No available data.
Solubility in other solvents	Negligible
Partition Coefficient	No available data.
Decomposition temperature:	No available data.
pH:	Not applicable
Autoignition Temperature	336 °C / 637 °F
Kinematic Viscosity	1.9-3.4 @ 40°C
Dynamic Viscosity	No available data.
Explosive Properties	No available data.
Softening Point	No available data.
VOC Content (%)	10%
Density	6.76 lbs/gal
Bulk Density	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity	The product is non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	Will not occur.
Conditions to avoid	Sources of heat or ignition.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation Harmful if inhaled. Inhalation of high vapor concentrations may cause irritation of the respiratory system. May cause drowsiness or dizziness.

Eye contact Causes mild eye irritation.

Skin contact Causes skin irritation. May cause sensitization by skin contact. May be absorbed through the skin in harmful amounts.

Ingestion May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Acute Toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
No. 2 Diesel Fuel 68476-34-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>1 - <5 mg/L (Rat) 4 h
Kerosine, Petroleum 8008-20-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	>1 - <5 mg/l (Rat) 4 h
Biodiesel (Tallow derived) 61788-61-2	-	-	-
Biodiesel (Soybean derived) 67784-80-9	> 5000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Biodiesel (Rapeseed derived) 73891-99-3	-	-	-
Biodiesel (Fatty Acid, Methyl Ester) 68937-84-8	> 2000 mg/kg (Rat)	-	-
Biodiesel (Canola derived) 129828-16-6	-	-	-
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	>1 - <5 mg/l (Rat) 4 h
Naphthalene 91-20-3	490 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

MIDDLE DISTILLATES, PETROLEUM: Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time.

MIDDLE DISTILLATES WITH CRACKED STOCKS: Light cracked distillates have been shown to be carcinogenic in animal tests and have tested positive with in vitro genotoxicity tests. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased fetal resorptions at maternally toxic doses. Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, in-depth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

BIODIESEL (SOYBEAN DERIVED): Dermal sensitization study (Guinea Pigs) repeat insult patch procedure with induction and challenge patches indicated a positive sensitization response.

NAPHTHALENE: Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

DIESEL EXHAUST: The combustion of diesel fuels produces gases including carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur, and hydrocarbons that can be irritating and hazardous with overexposure. Long-term occupational overexposure to diesel exhaust and diesel exhaust particulate matter has been associated with an increased risk of respiratory disease, including lung cancer, and is characterized as a "known human carcinogen" by the International Agency for Research on Cancer (IARC), as "a reasonably anticipated human carcinogen" by the National Toxicology Program, and as "likely to be carcinogenic to humans" by the EPA, based upon animal and occupational exposure studies. However, uncertainty exists with these classifications because of deficiencies in the supporting occupational exposure/epidemiology studies, including reliable exposure estimates. Lifetime animal inhalation studies with pulmonary overloading exposure concentrations of diesel exhaust emissions have produced tumors and other adverse health effects. However, in more recent long-term animal inhalation studies of diesel exhaust emissions, no increase in tumor incidence and in fact a substantial reduction in adverse health effects along with significant reductions in the levels of hazardous material emissions were observed and are associated with fuel composition alterations coupled with new technology diesel engines.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs & Symptoms Nausea, vomiting, signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue.

Sensitization May cause sensitization by skin contact. Not expected to be a respiratory sensitizer.

Mutagenic effects None known.

Carcinogenicity Cancer designations are listed in the table below.

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
No. 2 Diesel Fuel 68476-34-6	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
Kerosine, Petroleum 8008-20-6	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	Not Listed	Not Listed	Not Listed	Not Listed
Biodiesel (Tallow derived) 61788-61-2	Not Listed	Not Listed	Not Listed	Not Listed
Biodiesel (Soybean derived) 67784-80-9	Not Listed	Not Listed	Not Listed	Not Listed
Biodiesel (Rapeseed derived) 73891-99-3	Not Listed	Not Listed	Not Listed	Not Listed
Biodiesel (Fatty Acid, Methyl Ester) 68937-84-8	Not Listed	Not Listed	Not Listed	Not Listed
Biodiesel (Canola derived) 129828-16-6	Not Listed	Not Listed	Not Listed	Not Listed
Alkanes, C10-C20 branched and linear 928771-01-1	Not Listed	Not Listed	Not Listed	Not Listed
Naphthalene 91-20-3	Confirmed animal carcinogen (A3)	Possible human carcinogen (2B)	Reasonably anticipated to be a human carcinogen	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure Central nervous system.

Specific Target Organ Toxicity (STOT) - repeated exposure Thymus. Liver. Bone marrow.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
No. 2 Diesel Fuel 68476-34-6	-	96-hr LC50 = 35 mg/l Fathead minnow (flow-through)	-	48-hr EL50 = 6.4 mg/l Daphnia magna
Kerosine, Petroleum 8008-20-6	72-hr EL50 = 5.0-11 mg/l Algae	96-hr LL50 = 18-25 mg/l Fish	-	48-hr EL50 = 1.4-21 mg/l Invertebrates
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	-	-

Biodiesel (Tallow derived) 61788-61-2	-	-	-	-
Biodiesel (Soybean derived) 67784-80-9	-	-	-	-
Biodiesel (Rapeseed derived) 73891-99-3	-	-	-	-
Biodiesel (Fatty Acid, Methyl Ester) 68937-84-8	-	96-hr LC50 = 550 mg/l Zebrafish (semi-static)	-	24-hr LC50 = 4.65 mg/l Daphnia magna
Biodiesel (Canola derived) 129828-16-6	-	-	-	-
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	-	-
Naphthalene 91-20-3	-	96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96-hr LC50 = 1.99 mg/l Fathead minnow (static)	-	48-hr LC50 = 1.6 mg/l Daphnia magna

Persistence and degradability Expected to be inherently biodegradable.

Bioaccummulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
This material may be a flammable liquid waste.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Methods of Contaminated Packaging Disposal
Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (49 CFR 172.101):

UN Proper shipping name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Transport Hazard Class(es):	3
Packing group:	III

TDG (Canada):

UN Proper shipping name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Transport Hazard Class(es):	3
Packing group:	III

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
No. 2 Diesel Fuel	NA
Kerosine, Petroleum	NA
Fuels, Diesel, C9-18-Alkane Branched and Linear	NA
Biodiesel (Tallow derived)	NA
Biodiesel (Soybean derived)	NA
Biodiesel (Rapeseed derived)	NA
Biodiesel (Fatty Acid, Methyl Ester)	NA
Biodiesel (Canola derived)	NA
Alkanes, C10-C20 branched and linear	NA
Naphthalene	NA

SARA Section 304: This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
No. 2 Diesel Fuel	NA
Kerosine, Petroleum	NA
Fuels, Diesel, C9-18-Alkane Branched and Linear	NA
Biodiesel (Tallow derived)	NA
Biodiesel (Soybean derived)	NA
Biodiesel (Rapeseed derived)	NA
Biodiesel (Fatty Acid, Methyl Ester)	NA
Biodiesel (Canola derived)	NA
Alkanes, C10-C20 branched and linear	NA
Naphthalene	100 lb final RQ 45.4 kg final RQ

SARA: The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Chronic Health Hazard

SARA Section 313: This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Name	CERCLA/SARA 313 Emission reporting:
No. 2 Diesel Fuel	None
Kerosine, Petroleum	None
Fuels, Diesel, C9-18-Alkane Branched and Linear	None
Biodiesel (Tallow derived)	None
Biodiesel (Soybean derived)	None
Biodiesel (Rapeseed derived)	None

Biodiesel (Fatty Acid, Methyl Ester)	None
Biodiesel (Canola derived)	None
Alkanes, C10-C20 branched and linear	None
Naphthalene	0.1 % de minimis concentration

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

No. 2 Diesel Fuel

Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	SN 2444
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	SN 2444 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.

Kerosine, Petroleum

Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	SN 1091
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	SN 1091 TPQ: 10000 lb (Under N.J.A.C. 7:1G, environmental hazardous substances in mixtures such as gasoline or new and used petroleum oil may be reported under these categories)
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.

Fuels, Diesel, C9-18-Alkane Branched and Linear

Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.

Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Biodiesel (Tallow derived)	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Biodiesel (Soybean derived)	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Biodiesel (Rapeseed derived)	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.

New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Biodiesel (Fatty Acid, Methyl Ester)	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Biodiesel (Canola derived)	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Alkanes, C10-C20 branched and linear	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Not Listed.
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed.
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Not Listed.
New Jersey - Environmental Hazardous Substances List:	Not Listed.
Illinois - Toxic Air Contaminants	Not Listed.

New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed.
Naphthalene	
Louisiana Right-To-Know:	Not Listed.
California Proposition 65:	Carcinogen, initial date 4/19/02
New Jersey Right-To-Know:	SN 1322 SN 3758
Pennsylvania Right-To-Know:	Environmental hazard Present (particulate)
Massachusetts Right-To Know:	Present
Florida Substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan Critical Materials Register List:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed.
California - Regulated Carcinogens:	Not Listed.
Pennsylvania RTK - Special Hazardous Substances:	Not Listed.
New Jersey - Special Hazardous Substances:	Carcinogen
New Jersey - Environmental Hazardous Substances List:	SN 1322 TPQ: 500 lb (Reportable at the de minimis quantity of >0.1%)
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	100 lb RQ (air); 1 lb RQ (land/water)

Canada DSL/NDSL Inventory: This product contains the following component(s) that are listed on the Non-Domestic Substance List (NDSL): CAS# 1159170-26-9

Canadian Regulatory Information: "This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the (M)SDS contains all the information required by the Controlled Products Regulations."

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
No. 2 Diesel Fuel	B3,D2A,D2B	0.1%
Kerosine, Petroleum	B3,D2B	1%
Fuels, Diesel, C9-18-Alkane Branched and Linear	B3,D2A,D2B	0.1%
Biodiesel (Tallow derived)	Uncontrolled product according to WHMIS classification criteria	-
Biodiesel (Soybean derived)	D2B	1%
Biodiesel (Rapeseed derived)	Uncontrolled product according to WHMIS classification criteria	-
Biodiesel (Fatty Acid, Methyl Ester)	Uncontrolled product according to WHMIS classification criteria	-
Biodiesel (Canola derived)	Uncontrolled product according to WHMIS classification criteria	-
Alkanes, C10-C20 branched and linear	B3,D2A,D2B	0.1%
Naphthalene	B4,D2A	0.1%

NOTE: Not Applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety
Revision Date: 05/14/2015

Revision Note:

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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]
Boiler 2	BS-2	Hurst 400 HP Boiler	2015	16.3 MMBtu	New	
Boiler 3	BS-3	Hurst 400 HP Boiler	2015	16.3 MMBtu	New	
Boiler 4	BS-4	Hurst 400 HP Boiler	2015	16.3 MMBtu	New	
T-Boiler	TBS	Cleaver Brooks Boiler (temporary)	2014	19.9 MMBtu	New	
Boiler 1		Existing Cleaver Brooks Boiler		10.5 MMBtu	Remove	
Boiler 2		Existing Cleaver Brooks Boiler		10.5 MMBtu	Remove	
Boiler 3		Existing Keeler Boiler		15 MMBtu	Remove	
Boiler 4		Existing Keeler Boiler		15 MMBtu	Remove	

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

Attachment J

Emission Points Data Summary Sheet

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
Boiler 2	Vertical	BS-2	BS-2	NA	NA	C	8760	CO NOx PM_{10} SO_2 VOC HAPs* CO_2 CH_4 N_2O CO_2e	0.645 1.77 0.233 0.0277 0.0897 1.96E+03 3.75E-02 3.59E-02	2.82 3.13 0.496 0.0507 0.387 0.262 8.08E+03 1.55E-01 1.48E-01 8.13E+03	NA	NA	Gas Gas Solid Gas Gas Gas Gas Gas Gas Gas	Manuf. Manuf. AP-42 Manuf. AP-42 AP-42 AP-42 AP-42 AP-42 AP-42	NAv
Boiler 3	Vertical	BS-3	BS-3	NA	NA	C	8760	CO NOx PM_{10} SO_2 VOC HAPs* CO_2 CH_4 N_2O CO_2e	0.645 1.77 0.233 0.0277 0.0897 1.96E+03 3.75E-02 3.59E-02	2.82 3.13 0.496 0.0507 0.387 0.262 8.08E+03 1.55E-01 1.48E-01 8.13E+03	NA	NA	Gas Gas Solid Gas Gas Gas Gas Gas Gas Gas	Manuf. Manuf. AP-42 Manuf. AP-42 AP-42 AP-42 AP-42 AP-42 AP-42	NAv
Boiler 4	Vertical	BS-4	BS-4	NA	NA	C	8760	CO NOx PM_{10} SO_2 VOC HAPs* CO_2 CH_4 N_2O CO_2e	0.645 1.77 0.233 0.0277 0.0897 1.96E+03 3.75E-02 3.59E-02	2.82 3.13 0.496 0.0507 0.387 0.262 8.08E+03 1.55E-01 1.48E-01 8.13E+03	NA	NA	Gas Gas Solid Gas Gas Gas Gas Gas Gas Gas	Manuf. Manuf. AP-42 Manuf. AP-42 AP-42 AP-42 AP-42 AP-42 AP-42	NAv
T-Boiler	Vertical	TBS	TBS	NA	NA	C	8760	CO NOx PM_{10} SO_2 VOC HAPs* CO_2 CH_4 N_2O CO_2e	0.772 2.40 0.199 0.0398 0.199 2.39E+03 4.58E-02 4.38E-02	3.19 3.53 0.543 0.15 0.444 0.154 9.86E+03 4.39E-01 1.81E-01 9.93E+03	NA	NA	Gas Gas Solid Gas Gas Gas Gas Gas Gas Gas	Manuf. Manuf. AP-42 Manuf. AP-42 AP-42 AP-42 AP-42 AP-42 AP-42	NAv

**** A complete list HAPs emissions are provided in Attachment N.***

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. (^{o}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
BS-2	1.99	450	6,283	33.3	600	20	4244.77	445.18
BS-3	1.99	450	6,283	33.3	600	20	4244.77	445.18
BS-4	1.99	450	6,283	33.3	600	20	4244.77	445.18
TBS	2.00	450	7,583	40.2	600	20	4244.77	445.18

[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						
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

[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): NA

Equipment Information

1. Manufacturer: Cleaver Brooks Temporary Boiler	2. Model No. CBR-200-500 Serial No. T3649-1-1
3. Number of units: 1	4. Use Space and process heating
5. Rated Boiler Horsepower: 500 hp	6. Boiler Serial No.: T3649-1-1
7. Date constructed: 2014	8. Date of last modification and explain:
9. Maximum design heat input per unit: 19.9 ×10^6 BTU/hr	10. Peak heat input per unit: 19.9 ×10^6 BTU/hr
11. Steam produced at maximum design output: 17,250 LB/hr 125 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: %
17. Will flyash be reinjected? ☐ Yes ☐ No	18. Percent of carbon in flyash: %

Stack or Vent Data

19. Inside diameter or dimensions: 2.0 ft.	20. Gas exit temperature: 450 °F
21. Height: 20 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: 7,583 ft^3/min	
24. Estimated percent of moisture: %	

Fuel Requirements

25.	Type	Fuel Oil No.	Natural Gas	Gas (other, specify)	Coal, Type:	Other:
	Quantity (at Design Output)	No. 2, 149.1 gph@60°F	19,702 ft^3/hr	ft^3/hr	TPH	
	Annually	74.55 $\times 10^3$ gal	162.74 $\times 10^6$ ft^3/hr	$\times 10^6$ ft^3/hr	tons	
	Sulfur	Maximum: 0.0015 wt. % Average: 0.0015 wt. %	2000 (AP-42) gr/100 ft^3	gr/100 ft^3	Maximum: wt. %	
	Ash (%)	--	--		Maximum	
	BTU Content	140,000 BTU/Gal. 7.0 Lbs/Gal.@60°F	1010 BTU/ft^3	BTU/ft^3	BTU/lb	
	Source		Pipeline			
	Supplier	Brannon	Mountaineer			
	Halogens (Yes/No)					
	List and Identify Metals					

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

27. Gas burner manufacture: Cleaver Brooks

28. Oil burner manufacture: Cleaver Brooks

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: °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:
3,354.9 CFM @ 60 °F, PSIA, % moisture

33. Emission rate at rated capacity: 16,321.2 lb/hr

34. Percent excess air actually required for combustion of the fuel described: 15 %

Coal Characteristics

35. Seams: NA

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

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	see calculations in			
Hydrocarbons	Attachment N			
NO_x				
Pb				
PM_{10}				
SO_2				
VOCs				
Other (specify)				

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

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	there are no add-on			
Hydrocarbons	emissions controls			
NO_x				
Pb				
PM_{10}				
SO_2				
VOCs				
Other (specify)				

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

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.
Monitoring proposed is the same as in current permit for the existing boilers with the addition of required monitoring under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.
Emissions testing is not proposed.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.
Recordkeeping proposed is the same as in current permit for the existing boilers with the addition of required recordkeeping under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.
Reporting proposed is the same as in current permit for the existing boilers with the addition of required reporting under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

43. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Information on required maintenance and operating ranges will be submitted later with serial numbers for individual boilers.

Attachment L
Emission Unit Data Sheet
(INDIRECT HEAT EXCHANGER)

Control Device ID No. (must match List Form): NA

Equipment Information

1. Manufacturer: Hurst boiler with Riello burners	2. Model No. Boiler: Series 500, Burner: RLS650 Serial No. To be determined
3. Number of units: 3	4. Use Space and process heating
5. Rated Boiler Horsepower: 400 hp	6. Boiler Serial No.: To be determined
7. Date constructed: July 2015	8. Date of last modification and explain:
9. Maximum design heat input per unit: 16.3 $\times 10^6$ BTU/hr	10. Peak heat input per unit: 16.3 $\times 10^6$ BTU/hr
11. Steam produced at maximum design output: 13,850 LB/hr 80 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: NA %
17. Will flyash be reinjected? ☐ Yes ☒ No	18. Percent of carbon in flyash: NA %

Stack or Vent Data

19. Inside diameter or dimensions: 1.99 ft.	20. Gas exit temperature: 450 °F
21. Height: 20 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: 6,283 ft^3/min	
24. Estimated percent of moisture: %	

Fuel Requirements

25.	Type	Fuel Oil No.	Natural Gas	Gas (other, specify)	Coal, Type:	Other:
	Quantity (at Design Output)	No. 2, 116 gph@60°F	16,110 ft^3/hr	ft^3/hr	TPH	
	Annually	58 $\times 10^3$ gal	133.07 $\times 10^6$ ft^3/hr	$\times 10^6$ ft^3/hr	tons	
	Sulfur	Maximum: 0.0015 wt. % Average: 0.0015 wt. %	2000 (AP-42) gr/100 ft^3	gr/100 ft^3	Maximum: wt. %	
	Ash (%)	--	--		Maximum	
	BTU Content	140,000 BTU/Gal. 7.0 Lbs/Gal.@60°F	1010 BTU/ft^3	BTU/ft^3	BTU/lb	
	Source		Pipeline			
	Supplier	Brannon	Mountaineer			
	Halogens (Yes/No)					
	List and Identify Metals					

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

27. Gas burner manufacture: Riello

28. Oil burner manufacture: Riello

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: °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:
2,781.7 CFM @ 60 °F, PSIA, % moisture

33. Emission rate at rated capacity: 13,532.4 lb/hr

34. Percent excess air actually required for combustion of the fuel described: 15 %

Coal Characteristics

35. Seams: NA

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

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	see calculations in			
Hydrocarbons	Attachment N			
NO_x				
Pb				
PM_{10}				
SO_2				
VOCs				
Other (specify)				

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

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	there are no add-on			
Hydrocarbons	emissions controls			
NO_x				
Pb				
PM_{10}				
SO_2				
VOCs				
Other (specify)				

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

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.
Monitoring proposed is the same as in current permit for the existing boilers with the addition of required monitoring under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.
Emissions testing is not proposed.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.
Recordkeeping proposed is the same as in current permit for the existing boilers with the addition of required recordkeeping under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.
Reporting proposed is the same as in current permit for the existing boilers with the addition of required reporting under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

43. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Information on required maintenance and operating ranges will be submitted later with serial numbers for individual boilers.

BOILER FIRING COMBUSTION CALCULATIONS
CHARLESTON AREA MEDICAL CENTER - GENERAL DIVISION

COMBUSTION AIR CALCULATIONS

Hurst Boilers (Nos. 2, 3 & 4)

Distillate (No. 2) FO Firing

Burner Firing Rate (Maximum)	116.0	GPH
FO Density	6.8	lb/gal
Hourly Firing Rate	792.3	lb/hr
Theoretical Combustion Air Factor \1	211.7	scf/lb oil
Theoretical Air Required for Burner	167,725.7	SCFH
	2,795.4	**SCFM (ACFM) Combustion Air**

Natural Gas Firing

Burner Firing Rate (Maximum)	16,110.0	cfh
Theoretical Combustion Air Factor \1	10.4	scf/cf gas
Theoretical Air Required for Burner	166,899.6	SCFH
	2,781.7	**SCFM (ACFM) Combustion Air**

Cleaver Brooks- Temporary Boiler

Distillate (No. 2) FO Firing

Burner Firing Rate (Maximum)	140.0	GPH
FO Density	6.8	lb/gal
Hourly Firing Rate	956.2	lb/hr
Theoretical Combustion Air Factor \1	211.7	scf/lb oil
Theoretical Air Required for Burner	202,427.5	SCFH
	3,373.8	**SCFM (ACFM) Combustion Air**

Natural Gas Firing

Burner Firing Rate (Maximum)	19,430.0	cfh
Theoretical Combustion Air Factor \1	10.4	scf/cf gas
Theoretical Air Required for Burner	201,294.8	SCFH
	3,354.9	**SCFM (ACFM) Combustion Air**

\1 Source *Air Pollution Engineering Manual* , EPA AP-42

July 16,2015

BOILER FIRING COMBUSTION CALCULATIONS
CHARLESTON AREA MEDICAL CENTER - GENERAL DIVISION
Page 2

FLUE GAS (EMISSION RATE) CALCULATIONS

Hurst Boilers (Nos. 2, 3 & 4)

Distillate (No. 2) FO Firing		
Burner Firing Rate (Maximum)	116.0	GPH
FO Density	6.8	lb/gal
Hourly Firing Rate	792.3	lb/hr
Producst of combustion @15% excess air \1	18.2	lblb oil
Emission Rate (Flue Gas Flow Rate)	**14451.2**	**lb/hr**

Natural Gas Firing		
Burner Firing Rate (Maximum)	16110.0	cfh
Producst of combustion @15% excess air \1	0.8	lb/cf gas
Emission Rate (Flue Gas Flow Rate)	**13532.4**	**lb/hr**

Cleaver Brooks- Temporary Boiler

Distillate (No. 2) FO Firing		
Burner Firing Rate (Maximum)	140.0	GPH
FO Density	6.8	lb/gal
Hourly Firing Rate	956.2	lb/hr
Producst of combustion @15% excess air \1	18.2	lblb oil
Emission Rate (Flue Gas Flow Rate)	**17441.1**	**lb/hr**

Natural Gas Firing		
Burner Firing Rate (Maximum)	19430.0	cfh
Producst of combustion @15% excess air \1	0.8	lb/cf gas
Emission Rate (Flue Gas Flow Rate)	**16321.2**	**lb/hr**

\1 Source *Air Pollution Engineering Manual* , EPA AP-42

Attachment M

Air Pollution Control Device Sheet

Attachment M – Air Pollution Control Device

This Class I Administrative Update does not include the installation of an air pollution control (APC) device. Therefore, this attachment is not applicable.

Attachment N

Supporting Emissions Calculations

EXHIBIT 1
POTENTIAL TO EMIT ESTIMATES - SOURCE SUMMARY
Charleston Area Medical Center - General Division
Charleston, WV

EMISSION SOURCES		CRITERIA POLLUTANTS - TOTAL TPY \1					HAPs TOTAL TPY \2	GREENHOUSE GASES - TOTAL TPY \3					
EMISSION UNIT ID	EMISSION POINT ID	PM10	CO	NOx	SOx	VOC		CO2	CO2 Equiv	Methane	CO2 Equiv	N20	CO2 Equiv
Boiler 2	BS-2	4.96E-01	2.82E+00	3.13E+00	5.07E-02	3.87E-01	2.62E-01	8.08E+03	8.08E+03	1.55E-01	3.25E+00	1.48E-01	4.59E+01
Boiler 3	BS-3	4.96E-01	2.82E+00	3.13E+00	5.07E-02	3.87E-01	2.62E-01	8.08E+03	8.08E+03	1.55E-01	3.25E+00	1.48E-01	4.59E+01
Boiler 4	BS-4	4.96E-01	2.82E+00	3.13E+00	5.07E-02	3.87E-01	2.62E-01	8.08E+03	8.08E+03	1.55E-01	3.25E+00	1.48E-01	4.59E+01
TOTAL PTE FOR 3 NEW BOILERS		**1.49E+00**	**8.46E+00**	**9.39E+00**	**1.52E-01**	**1.16E+00**	**7.86E-01**	**2.42E+04**	**2.42E+04**	**4.65E-01**	**9.75E+00**	**4.44E-01**	**1.38E+02**
T-Boiler	TBS	**5.43E-01**	**3.19E+00**	**3.53E+00**	**1.50E-01**	**4.44E-01**	**1.54E-01**	**9.86E+03**	**9.86E+03**	**4.39E-01**	**9.22E+00**	**1.81E-01**	**5.61E+01**
TOTAL PTE FOR NEW & TEMP BOILERS		**2.03E+00**	**1.17E+01**	**1.29E+01**	**3.02E-01**	**1.61E+00**	**9.40E-01**	**3.41E+04**	**3.41E+04**	**9.04E-01**	**1.90E+01**	**6.25E-01**	**1.94E+02**

\1 See Exhibits 2 & 3 for PTE Criteria Pollutant calculations

\2 See Exhibits 4 & 5 for PTE HAP calculations

\3 See Exhibits 6 PTE GHG Emissions calculations

EXHIBIT 2
POTENTIAL TO EMIT - CRITERIA POLLUTANTS
NEW BOILERS 2, 3 AND 4
Charleston Area Medical Center - General Division
Charleston, WV

EMISSION UNIT IDs: Boiler Nos. 2, 3 & 4 (For each Hurst 400 HP Boiler)

EMISSION POINT IDs: BS-2, BS-3 & BS-4

DATA FOR EACH BOILER:

Maximum Boiler Heat Input	1.63E+07	MMBH
Natural Gas HHV	1,010	Btu/scf
No. 2 FO HHV	144,000	Btu/gal
Natural Gas Operations (max)	8,260	hr/yr
FO Operations (max)	500	hr/yr

POLLUTANTS	NATURAL GAS FIRING \1			NO. 2 FO FIRING \2 \3			TOTAL PTE (BOTH FUELS) TPY
	EF	PTE EMISSION RATES		EF	PTE EMISSION RATES		
	lb/MMBH	lb/hr	TPY	lb/MMBH	lb/hr	TPY	
Particulate Matter (PM10)	6.50E-03	1.06E-01	4.38E-01	1.43E-02	2.33E-01	5.83E-02	**4.96E-01**
Carbon Monoxide (CO)	3.96E-02	6.45E-01	2.66E+00	3.90E-02	6.36E-01	1.59E-01	**2.82E+00**
Nitrogen Oxide (NOx)	3.99E-02	6.51E-01	2.69E+00	1.09E-01	1.77E+00	4.42E-01	**3.13E+00**
Sulfur Oxide (SOx) \4	6.50E-04	1.06E-02	4.38E-02	1.70E-03	2.77E-02	6.93E-03	**5.07E-02**
VOC	5.50E-03	8.97E-02	3.70E-01	4.00E-03	6.52E-02	1.63E-02	**3.87E-01**

NOTES:

\1 Emission factors derived from burner manufacturer (Riello) data sheet; attached for reference

\2 Emission factors for SOx, NOx & CO derived from burner manufacturer (Riello) data sheet; attached for reference

\3 Emission factors for PM & VOC from latest AP-42 Fuel Oil Combustion, tables 1.3.1 &1.3.3

\4 SO2 fuel oil emission factor from AP-42, Table 1.3-1, using maximum 0.02% sulfur in fuel oil.
Emission factor (lb/103gal) = 142(S), where S is the percent sulfur in fuel oil:
(142 X 0.02) lb SO2/103 gallon) X (1 gallon/140,000 Btu) X (Million Btu/MMBtu) = 0.002 lb S02/MMBtu

EXHIBIT 3
POTENTIAL TO EMIT - CRITERIA POLLUTANTS
TEMPORARY BOILER
Charleston Area Medical Center - General Division
Charleston, WV

EMISSION UNIT ID: Temporary Boiler - Cleaver Brooks Model 200-500

EMISSION POINT ID: TBS

DATA FOR BOILER:

Maximum Boiler Heat Input	1.99E+07	MMBH
Natural Gas HHV	1,010	Btu/scf
No. 2 FO HHV	144,000	Btu/gal
Natural Gas Operations (max)	8,260	hr/yr
FO Operations (max)	500	hr/yr

POLLUTANTS	NATURAL GAS FIRING \1			NO. 2 FO FIRING \1			TOTAL PTE (BOTH FUELS) TPY
	EF	PTE EMISSION RATES		EF	PTE EMISSION RATES		
	lb/MMBH	lb/hr	TPY	lb/MMBH	lb/hr	TPY	
Particulate Matter (PM10)	6.00E-03	1.19E-01	4.93E-01	1.00E-02	1.99E-01	4.98E-02	**5.43E-01**
Carbon Monoxide (CO)	3.65E-02	7.26E-01	3.00E+00	3.88E-02	7.72E-01	1.93E-01	**3.19E+00**
Nitrogen Oxide (NOx)	3.57E-02	7.10E-01	2.93E+00	1.21E-01	2.40E+00	6.00E-01	**3.53E+00**
Sulfur Oxide (SOx) \2	1.70E-03	3.38E-02	1.40E-01	2.00E-03	3.98E-02	9.95E-03	**1.50E-01**
VOC	4.80E-03	9.55E-02	3.94E-01	1.00E-02	1.99E-01	4.98E-02	**4.44E-01**

NOTES:

\1 Emission factors derived from boiler/burner manufacturer (Cleaver Brooks-Powerhouse) data sheet; attached for reference

\ 2 SO2 fuel oil emission factor from AP-42, Table 1.3-1, using maximum 0.02% sulfur in fuel oil.
Emission factor (lb/103gal) = 142(S), where S is the percent sulfur in fuel oil:
(142 X 0.02) lb SO2/103 gallon) X (1 gallon/140,000 Btu) X (Million Btu/MMBtu) = 0.002 lb S02/MMBtu

EXHIBIT 4
POTENTIAL TO EMIT - HAPs
NEW BOILERS 2, 3 and 4
Charleston Area Medical Center - General Division

EMISSION UNIT IDs: Boiler Nos. 2, 3 & 4 (For each Hurst 400 HP Boiler)

EMISSION POINT IDs: BS-2, BS-3 & BS-4

DATA FOR EACH BOILER:

Maximum Boiler Heat Input	1.63E+07	MMBH
Natural Gas HHV	1,010	Btu/scf
No. 2 FO HHV	144,000	Btu/gal
Natural Gas Operations (max)	8,260	hr/yr
FO Operations (max)	500	hr/yr

POLLUTANTS	NATURAL GAS FIRING \1			NO. 2 FO FIRING \2			TOTAL PTE (BOTH FUELS) TPY
	EF	PTE EMISSION RATES		EF	PTE EMISSION RATES		
	lb/MMBH	lb/hr	TPY	lb/10^{12} Btu	lb/hr	TPY	
Arsenic	1.96E-07	3.20E-06	1.32E-05	4.00E+00	6.48E-05	1.62E-05	2.94E-05
Benzene	2.06E-06	3.36E-05	1.39E-04	1.53E+00	2.48E-03	6.20E-04	7.58E-04
Beryllium	1.18E-08	1.92E-07	7.92E-07	3.00E+00	4.86E-03	1.22E-03	1.22E-03
Cadmium	1.08E-06	1.76E-05	7.26E-05	3.00E+00	4.86E-03	1.22E-03	1.29E-03
Chromium	1.37E-06	2.24E-05	9.24E-05	3.00E+00	4.86E-03	1.22E-03	1.31E-03
Cobalt	8.24E-08	1.34E-06	5.54E-06	0.00E+00	0.00E+00	0.00E+00	5.54E-06
Dichlorobenzene	1.18E-06	1.92E-05	7.92E-05	0.00E+00	0.00E+00	0.00E+00	7.92E-05
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	4.50E-01	7.29E-04	1.82E-04	1.82E-04
Formaldehyde	7.35E-05	1.20E-03	4.95E-03	2.36E+02	3.82E-01	9.55E-02	1.00E-01
Hexane	1.76E-03	2.88E-02	1.19E-01	0.00E+00	0.00E+00	0.00E+00	1.19E-01
Lead	0.00E+00	0.00E+00	0.00E+00	9.00E+00	1.46E-02	3.65E-03	3.65E-03
Manganese	3.73E-07	6.07E-06	2.51E-05	8.00E+00	1.30E-02	3.24E-03	3.27E-03
Mercury	2.55E-07	4.15E-06	1.72E-05	3.00E+00	4.86E-03	1.22E-03	1.23E-03
Naphthalene	5.98E-07	9.75E-06	4.03E-05	8.07E+00	1.31E-02	3.27E-03	3.31E-03
Nickel	2.06E-06	3.36E-05	1.39E-04	3.00E+00	4.86E-03	1.22E-03	1.35E-03
Selenium	2.35E-08	3.84E-07	1.58E-06	1.50E+01	2.43E-02	6.08E-03	6.08E-03
Toluene	3.33E-06	5.43E-05	2.24E-04	4.43E+01	7.17E-02	1.79E-02	1.82E-02
Xylenes	0.00E+00	0.00E+00	0.00E+00	7.80E-01	1.26E-03	3.16E-04	3.16E-04
2-Methylnaphthalene (POM) \3	2.35E-08	3.84E-07	1.58E-06	0.00E+00	0.00E+00	0.00E+00	1.58E-06
3-Methylchloranthrene (POM) \3	1.76E-09	2.88E-08	1.19E-07	0.00E+00	0.00E+00	0.00E+00	1.19E-07
7,12 Dimethylbenz(a)anthracene (POM) \3	1.57E-08	2.56E-07	1.06E-06	0.00E+00	0.00E+00	0.00E+00	1.06E-06
Acenaphthene (P0M) \3	1.76E-09	2.88E-08	1.19E-07	1.51E-01	2.44E-04	6.10E-05	6.12E-05
Acenaphthylene (P0M) \3	1.76E-09	2.88E-08	1.19E-07	1.81E-03	2.93E-06	7.32E-07	8.51E-07
Anthracene (PQM) \3	2.35E-09	3.84E-08	1.58E-07	8.71E-03	1.41E-05	3.53E-06	3.69E-06
Benz(a)anthracene (POM) \3	1.76E-09	2.88E-08	1.19E-07	2.86E-92	4.64E-95	1.16E-95	1.19E-07
Benzo(a)pyrene (POM) \3	1.18E-09	1.92E-08	7.92E-08	0.00E+00	0.00E+00	0.00E+00	7.92E-08
Benzo(b,k)t!uoranthene (P0M) \3	1.76E-09	2.88E-08	1.19E-07	1.06E-02	1.71E-05	4.28E-06	4.40E-06
Benzo(g,h,i)perylene (POM) \3	1.18E-09	1.92E-08	7.92E-08	1.61E-02	2.62E-05	6.54E-06	6.62E-06
Chrysene (POM) \3	1.76E-09	2.88E-08	1.19E-07	1.70E-02	2.75E-05	6.89E-06	7.00E-06
Dibenzo(ah,h)anthracene (POM) \3	1.18E-09	1.92E-08	7.92E-08	1.19E-02	1.93E-05	4.83E-06	4.91E-06
Fluoranthene (POM) \3	2.94E-09	4.79E-08	1.98E-07	3.46E-02	5.60E-05	1.40E-05	1.42E-05
Fluorene (P0M) \3	2.75E-09	4.47E-08	1.85E-07	3.19E-02	5.17E-05	1.29E-05	1.31E-05
Indeno(1,2,3-cd)pyrene (POM) \3	1.76E-09	2.88E-08	1.19E-07	1.53E-02	2.48E-05	6.19E-06	6.31E-06
Phenanathrene (PQM) \3	1.67E-08	2.72E-07	1.12E-06	7.50E-02	1.22E-04	3.04E-05	3.15E-05
Pyrene (POM) \3	4.90E-09	7.99E-08	3.30E-07	3.04E-02	4.92E-05	1.23E-05	1.26E-05
TOTAL HAPS			**1.25E-01**			**1.37E-01**	**2.62E-01**

NOTES:

\1 Per latest edition of AP-42; Natural Gas Combustion; Tables 1.4-3 & 4. Input units converted to lb/MMBH (@1,010 BTU/scf)

\2 Per latest edition & published revisions in AP-42; Fuel Oil Combustion; Tables 1.3-9 & 10 & 13

\3 POM = Polycyclic Organic Matter; HAP per Section 112(b) of the CAA

EXHIBIT 5
POTENTIAL TO EMIT - HAPs
TEMPORARY BOILER
Charleston Area Medical Center - General Division

EMISSION UNIT ID: Temporary Boiler - Cleaver Brooks Model 200-500

EMISSION POINT ID: TBS

DATA FOR BOILER:

Maximum Boiler Heat Input	1.99E+07	MMBH
Natural Gas HHV	1,010	Btu/scf
No. 2 FO HHV	144,000	Btu/gal
Natural Gas Operations (max)	8,260	hr/yr
FO Operations (max)	500	hr/yr

POLLUTANTS	NATURAL GAS FIRING \1			NO. 2 FO FIRING \2			TOTAL PTE (BOTH FUELS) TPY
	EF	PTE EMISSION RATES		EF	PTE EMISSION RATES		
	lb/MMBH	lb/hr	TPY	lb/10^{12} Btu	lb/hr	TPY	
Arsenic	1.96E-07	3.90E-06	1.61E-05	4.00E+00	7.96E-05	1.99E-05	3.60E-05
Benzene	2.06E-06	4.10E-05	1.69E-04	1.53E+00	3.04E-05	7.61E-06	1.77E-04
Beryllium	1.18E-08	2.34E-07	9.67E-07	3.00E+00	5.97E-05	1.49E-05	1.59E-05
Cadmium	1.08E-06	2.15E-05	8.86E-05	3.00E+00	5.97E-05	1.49E-05	1.04E-04
Chromium	1.37E-06	2.73E-05	1.13E-04	3.00E+00	5.97E-05	1.49E-05	1.28E-04
Cobalt	8.24E-08	1.64E-06	6.77E-06	0.00E+00	0.00E+00	0.00E+00	6.77E-06
Dichlorobenzene	1.18E-06	2.34E-05	9.67E-05	0.00E+00	0.00E+00	0.00E+00	9.67E-05
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	4.50E-01	8.96E-06	2.24E-06	2.24E-06
Formaldehyde	7.35E-05	1.46E-03	6.04E-03	2.36E+02	4.69E-03	1.17E-03	7.22E-03
Hexane	1.76E-03	3.51E-02	1.45E-01	0.00E+00	0.00E+00	0.00E+00	1.45E-01
Lead	0.00E+00	0.00E+00	0.00E+00	9.00E+00	1.79E-04	4.48E-05	4.48E-05
Manganese	3.73E-07	7.41E-06	3.06E-05	8.00E+00	1.59E-04	3.98E-05	7.04E-05
Mercury	2.55E-07	5.07E-06	2.09E-05	3.00E+00	5.97E-05	1.49E-05	3.59E-05
Naphthalene	5.98E-07	1.19E-05	4.92E-05	8.07E+00	1.61E-04	4.01E-05	8.93E-05
Nickel	2.06E-06	4.10E-05	1.69E-04	3.00E+00	5.97E-05	1.49E-05	1.84E-04
Selenium	2.35E-08	4.68E-07	1.93E-06	1.50E+01	2.99E-04	7.46E-05	7.66E-05
Toluene	3.33E-06	6.63E-05	2.74E-04	4.43E+01	8.81E-04	2.20E-04	4.94E-04
Xylenes	0.00E+00	0.00E+00	0.00E+00	7.80E-01	1.55E-05	3.88E-06	3.88E-06
2-Methylnaphthalene (POM) \3	2.35E-08	4.68E-07	1.93E-06	0.00E+00	0.00E+00	0.00E+00	1.93E-06
3-Methylchloranthrene (POM) \3	1.76E-09	3.51E-08	1.45E-07	0.00E+00	0.00E+00	0.00E+00	1.45E-07
7,12 Dimethylbenz(a)anthracene (POM) \3	1.57E-08	3.12E-07	1.29E-06	0.00E+00	0.00E+00	0.00E+00	1.29E-06
Acenaphthene (P0M) \3	1.76E-09	3.51E-08	1.45E-07	1.51E-01	3.00E-06	7.50E-07	8.95E-07
Acenaphthylene (P0M) \3	1.76E-09	3.51E-08	1.45E-07	1.81E-03	3.60E-08	8.99E-09	1.54E-07
Anthracene (PQM) \3	2.35E-09	4.68E-08	1.93E-07	8.71E-03	1.73E-07	4.34E-08	2.37E-07
Benz(a)anthracene (POM) \3	1.76E-09	3.51E-08	1.45E-07	2.86E-92	5.70E-97	1.42E-97	1.45E-07
Benzo(a)pyrene (POM) \3	1.18E-09	2.34E-08	9.67E-08	0.00E+00	0.00E+00	0.00E+00	9.67E-08
Benzo(b,k)t!uoranthene (P0M) \3	1.76E-09	3.51E-08	1.45E-07	1.06E-02	2.10E-07	5.26E-08	1.98E-07
Benzo(g,h,i)perylene (POM) \3	1.18E-09	2.34E-08	9.67E-08	1.61E-02	3.21E-07	8.03E-08	1.77E-07
Chrysene (POM) \3	1.76E-09	3.51E-08	1.45E-07	1.70E-02	3.38E-07	8.46E-08	2.30E-07
Dibenzo(ah,h)anthracene (POM) \3	1.18E-09	2.34E-08	9.67E-08	1.19E-02	2.37E-07	5.93E-08	1.56E-07
Fluoranthene (POM) \3	2.94E-09	5.85E-08	2.42E-07	3.46E-02	6.88E-07	1.72E-07	4.14E-07
Fluorene (P0M) \3	2.75E-09	5.46E-08	2.26E-07	3.19E-02	6.35E-07	1.59E-07	3.84E-07
Indeno(1,2,3-cd)pyrene (POM) \3	1.76E-09	3.51E-08	1.45E-07	1.53E-02	3.04E-07	7.60E-08	2.21E-07
Phenanathrene (PQM) \3	1.67E-08	3.32E-07	1.37E-06	7.50E-02	1.49E-06	3.73E-07	1.74E-06
Pyrene (POM) \3	4.90E-09	9.75E-08	4.03E-07	3.04E-02	6.04E-07	1.51E-07	5.54E-07
TOTAL HAPS			**1.52E-01**			**1.70E-03**	**1.54E-01**

NOTES:

\1 Per latest edition of AP-42; Natural Gas Combustion; Tables 1.4-3 & 4. Input units converted to lb/MMBH (@1,010 BTU/scf)

\2 Per latest edition & published revisions in AP-42; Fuel Oil Combustion; Tables 1.3-9 & 10 & 13

\3 POM = Polycyclic Organic Matter; HAP per Section 112(b) of the CAA

EXHIBIT 6
POTENTIAL TO EMIT - GREENHOUSE GASES (GHG)
ALL BOILERS
Charleston Area Mecial Center - General Division

EMISSION UNIT IDs: Boiler Nos. 2, 3 & 4 (For each Hurst 400 HP Boiler)

EMISSION POINT IDs: BS-2, BS-3 & BS-4

Maximum Heat Input (MMBH) 1.63E+07

Annual hours natural gas firing: 8,260; Annual hours FO firing: 500

BOILER NOS. 2, 3 & 4 (Each)	Emission Factors (lb/MMBH) \1 \2	PTE Emission Rates		PTE TPY CO2 EQUIVALENTS \3
		lb/hr	TPY	
CO2				
Natural Gas Firing	1.20E+02	1.96E+03	8.08E+03	
FO Firing	1.59E-04	2.59E-03	6.48E-04	
Total			**8.08E+03**	**8.08E+03**
Methane				
Natural Gas Firing	2.30E-03	3.75E-02	1.55E-01	
FO Firing	1.54E-09	2.51E-08	6.28E-09	
Total			**1.55E-01**	**3.25E+00**
Nitrous Oxide (N2O)				
Natural Gas Firing	2.20E-03	3.59E-02	1.48E-01	
FO Firing	1.86E-09	3.03E-08	7.58E-09	
Total			**1.48E-01**	**4.59E+01**

EMISSION UNIT ID: Temporary Boiler - Cleaver Brooks Model 200-500

EMISSION POINT ID: TBS

Maximum Heat Input (MMBH) 1.99E+07

Annual hours natural gas firing: 8,260; Annual hours FO firing: 500

BOILER NOS. 2, 3 & 4 (Each)	Emission Factors (lb/MMBH) \1 \2	PTE Emission Rates		PTE TPY CO2 EQUIVALENTS \3
		lb/hr	TPY	
CO2				
Natural Gas Firing	1.20E+02	2.39E+03	9.86E+03	
FO Firing	1.59E-04	3.16E-03	7.91E-04	
Total			**9.86E+03**	**9.86E+03**
Methane				
Natural Gas Firing	2.30E-03	4.58E-02	1.89E-01	
FO Firing	1.54E-09	3.06E-08	2.50E-01	
Total			**4.39E-01**	**9.22E+00**
Nitrous Oxide (N2O)				
Natural Gas Firing	2.20E-03	4.38E-02	1.81E-01	
FO Firing	1.86E-09	3.70E-08	9.25E-09	
Total			**1.81E-01**	**5.61E+01**

NOTES:

\1 Per latest edition of AP-42; Natural Gas Combustion; Tables 1.4-2. Input units converted to lb/MMBH (@1,010 BTU/scf)

\2 Per latest edition & published revisions in AP-42; Fuel Oil Combustion; Tables 1.3-3. Inputs converted to lb/MMBH

\3 GWP factor of 1 for CO2; 21 for methane; 310 for N2)

Riello Burners North America

HEAD OFFICE
2165 Meadowpine Blvd.
Mississauga, ON L5N 6H6
Canada
Phone: 800-474-3556 / 905-542-0303

www.riello.ca

U.S. Office
35 Pond Park Rd
Hingham, MA 02043

Customer: P.C. McKenzie Co.

End User: Charleston Medical Center
501 Morris St
Charleston, WV 25301

Burner model: RLS 650/EV FGR

Boiler Type:	**HURST 500 SERIES**	**400 HP**
Fuel Type:	**Natural Gas**	
Fuel Rate:	**16110**	**cf/hr**
BTU Content:	**1010**	**Btu/cf**
Operation:	**80 psi**	**steam**

Pollutant:	ppm-vol. dry @3%O2	Emission Factor [lbs/MMft3]	Emissions [lbs/hr]	Emissions [tpy]
PM10	--	0,65	0,010	0,046
SO2	0,01	0,6	0,010	0,042
NOx	30	38,93	0,627	2,747
CO	50	39,57	0,637	2,792
VOC	NA	5,5	0,089	0,388

****Actual emissions may vary****

2165 Meadowpine Blvd
Mississauga ON, L5N 6H6
Canada
(905) 542 - 0303

Customer: P.C. McKenzie Co.

End User: Charleston Medical Center
501 Morris St
Charleston, WV 25301

RE: Burner model RLS 650/EV FGR Typical Emissions

The following table represents the expected emissions from the above mentioned burner. Please note actual site emissions may vary.

Boiler:	Hurst 500 Series	400 HP
Firing Rate:	116	GPH
BTU Content:	140,000	BTU/gal
Operating Pressure:	80	PSI

Pollutant	PPM-Vol. Dry @ 3% O_2	Emissions Factor [Lbs/ MMBTU]	Emissions @ 100% Firing Rate [Lbs/hr]
SO_2*	5	0.0090	0.145
NOx	85	0.1085	1.763
CO	50	0.0390	0.633

*When utilized with ULSD fuel as defined by ASTM D975

The values reported above were calculated in accordance with EPA Method 19 and Appendix A of the EPA OBR regulator handbook.

Kind regards,

Blaine Serio
Laboratory Manager
Phone: (905) 542 - 0303 ext.245

POWERHOUSE
BOILERS ARE OUR BUSINESS.

11 Mar 15

PREDICTED PERFORMANCE - STACK EMISSIONS
with 15% FGR (corrected to 3% O_2, Dry)

POWERHOUSE UNIT NO.	B-1027 or equal	
BOILER MODEL	CBR-200-500	
BOILER / BURNER MFG	Cleaver Brooks	
BOILER / BURNER SERIAL NUMBER	T3649-1-1	
BOILER CAPACITY	500	HP
FUEL INPUT (#2 OIL)	19.90	MMBTU/HR
FUEL INPUT (NAT GAS)	19.90	MMBTU/HR
FUEL INPUT (PROPANE)	19.90	MMBTU/HR
STEAM FLOW, F&A 212 F / 0 PSI	17250	PPH
STEAM PRESSURE, ASME DESIGN	200	PSIG
STEAM PRESSURE, OPERATING	125	PSIG

Note – Fuel input is limited to 19.9 MMBH

NATURAL GAS (subject to fuel analysis)

COMPONENT	PPM	LB/MMBTU	LB/HOUR	LB/DAY
CO	50.00	0.0365	0.7263	17.4307
NOx	30.00	0.0357	0.7107	17.0571
SOx	1.00	0.0017	0.0332	0.7960
VOC	12.00	0.0048	0.0955	2.2925
Particulates (PM10)	--------	0.0060	0.1194	2.8656

Propane (subject to fuel analysis)

COMPONENT	PPM	LB/MMBTU	LB/HOUR	LB/DAY
CO	50.00	0.0365	0.7263	17.4307
NOx	40.00	0.0476	0.9476	22.7429
SOx	1.00	0.0017	0.0332	0.7960
VOC	12.00	0.0048	0.0955	2.2925
Particulates (PM10)	--------	0.0060	0.1194	2.8656

#2 OIL (subject to fuel analysis)

COMPONENT	PPM	LB/MMBTU	LB/HOUR	LB/DAY
CO	50.00	0.0388	0.7719	18.5260
NOx	90.00	0.1206	2.4008	57.6193
SOx	50.00	0.0929	1.8494	44.3866
VOC	20.00	0.0100	0.1990	4.7760
Particulates (PM10)	--------	0.0100	0.1990	4.7760

EXHAUST GAS FLOW	19838	**PPH**	7583	**ACFM**
EXHAUST GAS TEMP.	450°	**F.**	232°	**C.**
STACK DIAMETER	24.00	**IN.**		
EXHAUST VELOCITY	2415	**FPM**		

240 CREEK RD., DELANCO, NJ 08075 USA
856.764.3333 PH 856.764.3330 FAX
COMPANY HEADQUARTERS
www.powerhouse.com

Attachment O

Monitoring/Recordkeeping/Reporting/Testing Plans

Attachment O – Monitoring/Recordkeeping/Reporting/Testing Plans

Monitoring, recordkeeping, and reporting proposed is the same as the current permit for the existing boilers with the addition of the requirements under 40 CFR 60, Subpart Dc, and 40 CFR 63, Subpart JJJJJJ as described in Attachment D.

Emissions testing is not proposed.

Attachment P

Public Notice

Attachment P – Public Notice

A Class I legal advertisement is not required for a Class I Administrative Update. Therefore, a public notice is not required and this attachment is not applicable.

Attachment Q

Business Confidential Claims

Attachment Q – Business Confidential Claims

This Class I Administrative Update does not contain any information considered "Confidential Business Information" per 45CSR31.

Attachment R

Authority Forms

Attachment R – Authority Forms

This Class I Administrative Update is signed by the “Responsible Official”. Therefore no authority forms are included.

Application Fee