



VIA FedEx

22 April 2015

Mr. Steve Pursley
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Reference: Moundsville Power, LLC
Class II Administrative Update of Approved Air Permit
(R14-0030)

Dear Mr. Pursley:

On behalf of Moundsville Power, LLC (Moundsville Power), Environmental Resources Management, Inc. (ERM) is submitting three (3) copies and a CD of an application for a Class II Administrative Update to the existing air permit (R14-0030) for Moundsville Power's proposed gas-fired combined-cycle combustion turbine electric power plant in Moundsville, Marshall County, WV. The air permit was originally approved by the Department on November 21, 2014. Moundsville Power requests this Class II Administrative Update pursuant to 45 CSR-13-4 to reflect changes in project equipment and design that have evolved since the original air permit approval. The following is a summary of the changes.

Combustion Turbines/Heat Recovery Steam Generators (CTs/HRSGs)

There have been various changes in the emissions and performance profile of the General Electric (GE) Frame 7FA.04 combustion turbines (CTs), and their associated Heat Recovery Steam Generators (HRSGs). These changes include:

- Increase in the maximum heat input of each CT from 2,087 million Btu per hour (MMBtu/hr) to 2,232 MMBtu/hr;
- Increase in the maximum duct firing rate for each HRSG from 72.1 MMBtu/hr to 187.61 MMBtu/hr;
- A slight reduction in the exhaust stack height of each CT/HRSG from 180.5 feet to 175 feet; and
- Minor variations in exhaust gas flow rates and temperatures for each CT/HRSG.

There are no proposed changes in the maximum concentrations of NO_x, CO, and VOC emissions compared to the current air permit. These concentration limits remain at 2.0 parts per million by volume, dry basis, corrected to 15% oxygen (ppmvd @ 15% O₂) for NO_x, 2.0 ppmvd @ 15% O₂ for CO, 1.0 ppmvd @ 15% O₂ for VOC without duct firing, and 2.0 ppmvd @ 15% O₂ for VOC with duct firing. Likewise, there are no proposed changes in the start-up and shutdown emissions from the CTs/HRSGs compared to the current air permit.

There are slight increases in the short term (i.e. lb/hr, lb/day) and annual (i.e. tons/yr) mass emission rates of most pollutants.

To illustrate the small magnitude of the emission changes, **Tables 1-3** summarize the changes in lb/hr, lb/day, and tons/yr emission rates from steady-state operation of one (1) and two (2) CT/HRSG modules.

Table 1. Comparison of Current and Proposed Hourly Emission Rates

Pollutant	Current		Proposed		Increase	
	1 CT/HRSG	2 CTs/HRSGs	1 CT/HRSG	2 CTs/HRSGs	1 CT/HRSG	2 CTs/HRSGs
	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
VOC	5.3	10.6	5.7	11.3	0.4	0.8
NO _x	15.2	30.4	16.3	32.6	1.1	2.2
CO	9.2	18.5	9.9	19.8	0.7	1.4
SO ₂	0.5	1.1	0.6	1.3	0.1	0.2
PM/PM ₁₀ /PM _{2.5}	7.6	15.1	8.9	17.8	1.3	2.7
Pb	0.001	0.002	0.001	0.002	0.0002	0.0003

Table 2. Comparison of Current and Proposed Daily Emission Rates

Pollutant	Current		Proposed		Increase	
	1 CT/HRSG	2 CTs/HRSGs	1 CT/HRSG	2 CTs/HRSGs	1 CT/HRSG	2 CTs/HRSGs
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
VOC	126.7	253.4	136.1	272.2	9.4	18.7
NO _x	364.8	729.6	391.2	782.4	26.4	52.8
CO	221.8	443.5	238.1	476.2	16.3	32.6
SO ₂	13.10	26.2	15.21	30.4	2.1	4.2
PM/PM ₁₀ /PM _{2.5}	181.4	362.9	213.6	427.2	32.2	64.3
Pb	0.025	0.05	0.028	0.06	0.004	0.007

Table 3. Comparison of Current and Proposed Annual Emission Rates

Pollutant	Current		Proposed		Increase	
	1 CT/HRSG	2 CTs/HRSGs	1 CT/HRSG	2 CTs/HRSGs	1 CT/HRSG	2 CTs/HRSGs
	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr	tons/yr
VOC	23.1	46.3	24.8	49.7	1.7	3.4
NO _x	66.6	133.2	71.4	142.8	4.8	9.6
CO	40.5	80.9	43.4	86.9	3.0	6.0
SO ₂	2.4	4.8	2.8	5.6	0.4	0.8
PM/PM ₁₀ /PM _{2.5}	33.1	66.2	39.0	78.0	5.9	11.7
Pb	0.004	0.01	0.005	0.01	0.001	0.001

Regarding GHG emissions, due to a slight increase in efficiency of the CTs/HRSGs, the design output-based CO₂e emission rate decreases slightly from 793 pounds per megawatt-hour (lb/MW-hr) listed in the current air permit to 792 lb/MW-hr, for the corresponding operating case¹.

Regarding particulate matter (PM/PM₁₀/PM_{2.5}) emissions, they are increasing from 7.6 lb/hr to 8.9 lb/hr per CT/HRSG. Moundsville Power believes that this level still represents Best Available Control Technology (BACT). This emission rate is still based on the use of good combustion practices and the firing of clean fuels such as pipeline-quality natural gas or a blend of pipeline-quality natural gas and up to 25% ethane, as well as inlet air filtration.

The current PM/PM₁₀/PM_{2.5} emission rate of 7.6 lb/hr corresponds to a maximum of 0.0056 lb/MMBtu. The proposed PM/PM₁₀/PM_{2.5} emission rate of 8.9 lb/hr corresponds to a maximum of 0.0055 lb/MMBtu. Therefore, the proposed emission rate represents a slight decrease in the lb/MMBtu emission rate.

Cooling Tower

There are several changes in the design configuration, circulating water rate, make-up water rates, and Total Dissolved Solids (TDS) concentrations for the Cooling Tower. Specifically, these changes include:

¹ Based on combined cycle gross MW output, at 59°F ambient temperature, with no duct firing, evaporative cooling on, and the combustion turbines firing natural gas and operating at base load (operating case 18 in revised vendor data).

- Use of a 6 cell Cooling Tower in a 1 x 6 configuration, instead of the original 10 cell Cooling Tower in a 2 x 5 configuration;
- Increase in the diameter of each cell from 30 feet to 40 feet;
- Slight increase in the Cooling Tower design circulating water rate from 159,000 gallons per minute (gpm) to 164,110 gpm;
- Decrease in the Cooling Tower design make-up water rate from 185,500 gallons per hour (gph) to 155,600 gph;
- Decrease in the Cooling Tower design exhaust flow rate per cell from 1,800,000 actual cubic feet per minute (acfm) to 1,450,000 acfm; and
- Increase in the maximum design TDS concentration of the Cooling Tower circulating water from 1,800 milligrams per liter (mg/L) to 2,400 mg/L.

The overall effect of these changes is slight increases in the permitted PM and PM₁₀ emissions from the Cooling Tower, as shown in **Table 4**.

Table 4. Comparison of Current and Proposed Cooling Tower Emission Rates

Emission Rate	PM			PM10			PM2.5		
	Current	Proposed	Increase	Current	Proposed	Increase	Current	Proposed	Increase
lb/hr	0.72	0.99	0.27	0.50	0.57	0.07	0.01	0.01	0.0
lb/day	17.26	23.76	6.49	11.62	13.59	1.97	0.24	0.24	0.0
tons/yr	3.15	4.34	1.19	2.12	2.48	0.36	0.01	0.01	0.0

Fire Water Pump

The size of the fire water pump has increased from 251 horsepower (hp) to 500 hp. The overall effect of this change is a slight increase in the permitted emissions from the Fire Water Pump, as shown in **Table 5**.

Table 5. Comparison of Current and Proposed Fire Water Pump Emission Rates

Pollutant	Current			Proposed			Increase		
	lb/hr	lb/day	tons/yr	lb/hr	lb/day	tons/yr	lb/hr	lb/day	tons/yr
VOC	0.17	3.98	0.04	0.33	7.94	0.08	0.16	3.95	0.04
NO _x	1.49	35.86	0.37	2.98	71.43	0.74	1.48	35.57	0.37
CO	1.44	34.53	0.36	2.87	68.78	0.72	1.43	34.25	0.36
SO ₂	0.01	0.24	0.01	0.01	0.24	0.01	0.00	0.00	0.00
PM/PM ₁₀ /PM _{2.5}	0.08	1.99	0.021	0.17	3.97	0.041	0.08	1.98	0.02

Administrative Update

Moundsville Power evaluated the changes in emissions from the revisions described in this submittal with respect to the thresholds in the definition of “modification” in 45 CSR-13-2.17a. **Appendix 1** provides a CD containing vendor emissions and performance data, along with emission calculations demonstrating that the changes in emissions from these revisions do not constitute a “modification” as defined in 45 CSR-13-2.17a. Therefore, Moundsville Power believes that these permit revisions qualify for processing as a Class II Administrative Update under 45 CSR-13-4. Despite the small increases in the emission rates of some pollutants, there are no changes in the regulatory applicability status of the equipment and facility with respect to the regulatory programs outlined in the original air permit application. Likewise, the conclusions of the original air pollution control technology reviews (i.e. BACT analyses) are unaffected by these slight emission changes.

Revised Application Forms

Enclosed in **Appendix 2** are revised versions of the affected application forms that reflect the proposed changes. The following forms are included:

- **Application for NSR Permit (Class II Administrative Update);**
- **Attachment A** – Business Certificate;
- **Attachment C** – Schedule of Installation and Start-up;
- **Attachment E** – Plot Plan;
- **Attachment G** – Process Description;
- **Attachment I** –Emission Units Table;
- **Attachment J** – Emission Points Data Summary Sheet;
- **Attachment L01** - Emission Unit Data Sheet (CCCT-1);
- **Attachment L02** –Emission Unit Data Sheet (CCCT-2);
- **Attachment L03** – Emission Unit Data Sheet (Cooling Tower);
- **Attachment L04** – Emission Unit Data Sheet (Fire Water Pump);
- **Attachment N** – Supporting Emission Calculations;
- **Attachment O** – Monitoring, Recordkeeping, Reporting and Testing Plans;
- **Attachment P** – Air Quality Permit Notice.

Also enclosed in **Appendix 3** are requested revisions to the approved air permit, in the form of markups, to implement the changes requested in this submittal. Only pages with changes are included.

Application Fee

Enclosed in **Appendix 4** is a check in the amount of \$300.00, payable to the "Air Pollution Control Commission Fund". This is the applicable permit application fee for a Class II administrative update to a valid existing permit pursuant, pursuant to 45 CSR-13-4.4.

Air Quality Modeling

A revised air quality modeling report is being submitted separately in support of this application. The revised air quality modeling report reflects the revised emission rates, exhaust characteristics, and equipment configurations.

As we discussed during your March 12, 2015 call with John Black (Energy Solutions Consortium, LLC) and Jon Perry (ERM), Moundsville Power hopes to obtain WVDEP approval by November 2015 to allow us to maintain our project construction schedule. We greatly appreciate the attention you have given to this project so far, and look forward to working with you to meet this aggressive schedule.

Please call me at (609) 403-7518 or Mr. Jon Perry of ERM at (609) 403-7505 if you have any questions or need any additional information.

Sincerely,



William M. Hanna III, P.E.
Partner

Enclosures

Appendix 1 - Vendor Data and Emission Calculations

Appendix 2 - Revised Application Forms

Table of Contents

APPLICATION FOR NSR PERMIT (CLASS II ADMINISTRATIVE UPDATE)

ATTACHMENT A BUSINESS CERTIFICATE

ATTACHMENT C SCHEDULE OF INSTALLATION AND START-UP

ATTACHMENT E PLOT PLAN

ATTACHMENT G PROCESS DESCRIPTION

ATTACHMENT I EMISSION UNITS TABLE

ATTACHMENT J EMISSION POINTS DATA SUMMARY SHEET

ATTACHMENT L EMISSIONS UNIT DATA SHEETS

ATTACHMENT N SUPPORTING EMISSIONS CALCULATIONS

ATTACHMENT O MONITORING, RECORDKEEPING, REPORTING, AND TESTING
PLANS

ATTACHMENT P AIR QUALITY PERMIT NOTICE

**APPLICATION FOR NSR PERMIT
(CLASS II ADMINISTRATIVE UPDATE)**



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):
Moundsville Power, LLC

2. Federal Employer ID No. (FEIN):
46-1954749

3. Name of facility (if different from above):
Same

4. The applicant is the:
 OWNER OPERATOR BOTH

5A. Applicant's mailing address:
**333 Ganson Street
 Buffalo, NY 14203**

5B. Facility's present physical address:
N/A

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:

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: **Option to Buy**
 - 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.):
Electric Power Generation Unit

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

11A. DAQ Plant ID No. (for existing facilities only):
051-00188

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

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

<p>12A.</p> <ul style="list-style-type: none"> For Modifications, Administrative Updates or Temporary permits at an existing facility, please provide directions to the <i>present location</i> of the facility from the nearest state road; For Construction or Relocation permits, please provide directions to the <i>proposed new site location</i> from the nearest state road. Include a MAP as Attachment B. <p>Approximately three (3) miles south of Moundsville, West Virginia located between State Route 2 and the Ohio River and adjacent to County Highway 2/19. Former Allied Chemical Plant site.</p>		
12.B. New site address (if applicable): Chemical Plant Access Road South Moundsville, WV 26041	12C. Nearest city or town: Moundsville, WV	12D. County: Marshall
12.E. UTM Northing (KM): 4417.175	12F. UTM Easting (KM): 517.346	12G. UTM Zone: 17
13. Briefly describe the proposed change(s) at the facility: Construction of an electric power generation facility.		
14A. Provide the date of anticipated installation or change: Fall 2015		14B. Date of anticipated Start-Up if a permit is granted: 1st Quarter 2018
<ul style="list-style-type: none"> If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: / / 		
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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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 (<i>if known</i>). 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 (<i>if known</i>). Provide this information as Attachment D . Please refer to the original air permit application, submitted to WVDEP December 2013.		
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). Check for Class II Administrative Update fee (\$300) enclosed in Appendix 4.		
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) .		
<ul style="list-style-type: none"> 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 . Please refer to the original air permit application, submitted to WVDEP December 2013.		
23. Provide a Process Description as Attachment G .		
<ul style="list-style-type: none"> Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable). <p>All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.</p>		
24. Provide Material Safety Data Sheets (MSDS) for all materials processed, used or produced as Attachment H .		
<ul style="list-style-type: none"> For chemical processes, provide a MSDS for each compound emitted to the air. <p>Please refer to the original air permit application, submitted to WVDEP December 2013.</p>		
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 . Please refer to the original air permit application, submitted to WVDEP December 2013.
28. Check all applicable Emissions Unit Data Sheets listed below: <input type="checkbox"/> Bulk Liquid Transfer Operations <input type="checkbox"/> Haul Road Emissions <input type="checkbox"/> Quarry <input type="checkbox"/> Chemical Processes <input type="checkbox"/> Hot Mix Asphalt Plant <input type="checkbox"/> Solid Materials Sizing, Handling and Storage Facilities <input type="checkbox"/> Concrete Batch Plant <input type="checkbox"/> Incinerator <input type="checkbox"/> Storage Tanks <input type="checkbox"/> Grey Iron and Steel Foundry <input checked="" type="checkbox"/> Indirect Heat Exchanger <input checked="" type="checkbox"/> General Emission Unit, specify Cooling Tower
Fill out and provide the Emissions Unit Data Sheet(s) as Attachment L .
29. Check all applicable Air Pollution Control Device Sheets listed below: <input type="checkbox"/> Absorption Systems <input type="checkbox"/> Baghouse <input type="checkbox"/> Flare <input type="checkbox"/> Adsorption Systems <input type="checkbox"/> Condenser <input type="checkbox"/> Mechanical Collector <input type="checkbox"/> Afterburner <input type="checkbox"/> Electrostatic Precipitator <input type="checkbox"/> Wet Collecting System <input type="checkbox"/> Other Collectors, specify Please refer to the original air permit application, submitted to WVDEP December 2013.
Fill out and provide the Air Pollution Control Device Sheet(s) as Attachment M .
30. Provide all Supporting Emissions Calculations as Attachment N , or attach the calculations directly to the forms listed in Items 28 through 31.
31. Monitoring, Recordkeeping, Reporting and Testing Plans. Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as Attachment O . > Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.
32. Public Notice. At the time that the application is submitted, place a Class I Legal Advertisement in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and Example Legal Advertisement for details). Please submit the Affidavit of Publication as Attachment P immediately upon receipt.
33. Business Confidentiality Claims. Does this application include confidential information (per 45CSR31)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO > If YES , identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's " Precautionary Notice – Claims of Confidentiality " guidance 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: <input type="checkbox"/> Authority of Corporation or Other Business Entity <input type="checkbox"/> Authority of Partnership <input type="checkbox"/> Authority of Governmental Agency <input type="checkbox"/> Authority of Limited Partnership Submit completed and signed Authority Form as Attachment R . All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.
--

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

Certification of Truth, Accuracy, and Completeness

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

Compliance Certification

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

SIGNATURE _____
(Please use blue ink)

DATE: 4/15/15
(Please use blue ink)

35B. Printed name of signee: **Jon M. Williams**

35C. Title: **Managing Member**

35D. E-mail:
jmwilliams@moundsville-power.com

36E. Phone: **716-856-3333**

36F. FAX: **888-983-5443**

36A. Printed name of contact person (if different from above): **Same**

36B. Title:

36C. E-mail:

36D. Phone:

36E. FAX:

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Attachment A: Business Certificate | <input type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet |
| <input type="checkbox"/> Attachment B: Map(s) | <input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s) |
| <input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule | <input type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s) |
| <input type="checkbox"/> Attachment D: Regulatory Discussion | <input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations |
| <input checked="" type="checkbox"/> Attachment E: Plot Plan | <input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans |
| <input type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s) | <input checked="" type="checkbox"/> Attachment P: Public Notice |
| <input checked="" type="checkbox"/> Attachment G: Process Description | <input type="checkbox"/> Attachment Q: Business Confidential Claims |
| <input type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS) | <input type="checkbox"/> Attachment R: Authority Forms |
| <input checked="" type="checkbox"/> Attachment I: Emission Units Table | <input type="checkbox"/> Attachment S: Title V Permit Revision Information |
| <input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet | <input checked="" type="checkbox"/> 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:
**MOUNDSVILLE POWER, LLC
CHEMICAL PLANT ACCESS RD S
MOUNDSVILLE, WV 26041-0000**

BUSINESS REGISTRATION ACCOUNT NUMBER: 2280-1137

This certificate is issued on: **09/23/2013**

*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.

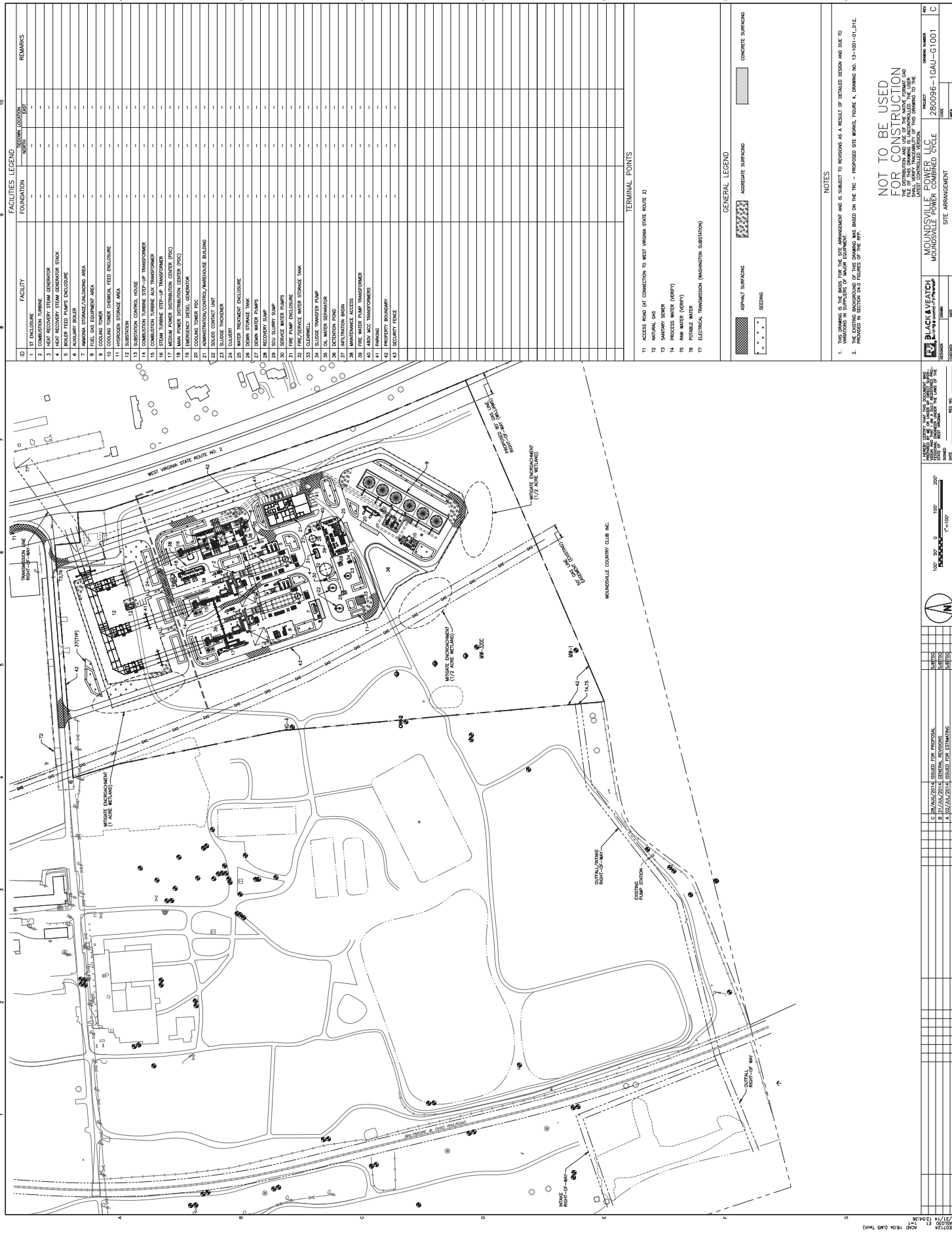
ATTACHMENT C
SCHEDULE OF INSTALLATION AND START-UP

Attachment C

Schedule of Installation and Start-up

Moundsville Power has tentatively scheduled to begin construction related activities during the fall of 2015. Final installation of equipment and start-up of the facility is tentatively scheduled for the first quarter of 2018. This schedule may vary depending on actual delivery of equipment, unforeseen construction delays, etc.

ATTACHMENT E
PLOT PLAN



ID	FACILITIES LEGEND		REMARKS
	FACILITY	FOUNDATION	
1	ENCLOSURE	CONCRETE	
2	COMBUSTION TURBINE		
3	HEAT RECOVERY STEAM GENERATOR		
4	HEAT RECOVERY STEAM GENERATOR STACK		
5	BOILER FEED PUMPS ENCLOSURE		
6	VALVE BUILDING		
7	VALVE BUILDING		
8	FUELS GAS EQUIPMENT AREA		
9	COOLING TOWER		
10	COOLING TOWER CHEMICAL FEED ENCLOSURE		
11	HYDROGEN STORAGE AREA		
12	SUBSTATION		
13	CONTROL HOUSE		
14	COMBUSTION TURBINE STEP-UP TRANSFORMER		
15	COMBUSTION TURBINE AUX TRANSFORMER		
16	STEAM TURBINE STEP-UP TRANSFORMER		
17	MEDIUM POWER DISTRIBUTION CENTER (MPC)		
18	MEDIUM POWER DISTRIBUTION CENTER (MPC)		
19	MEDIUM POWER DISTRIBUTION CENTER (MPC)		
20	COOLING TOWER PDC		
21	ADMINISTRATION/CONTROL/WAREHOUSE BUILDING		
22	SOILS CONTACT UNIT		
23	SLOUGE THICKENER		
24	WATER TREATMENT ENCLOSURE		
25	DOWN WATER TANK		
26	DOWN WATER TANK		
27	RECOVERY TANK		
28	RECOVERY TANK		
29	RECOVERY TANK		
30	RECOVERY TANK		
31	FIRE PUMP ENCLOSURE		
32	FIRE/STORAGE WATER STORAGE TANK		
33	CLEARWELL		
34	SLOUGE TRANSFER PUMP		
35	SLUDGE TRANSFER PUMP		
36	SLUDGE TRANSFER PUMP		
37	INFLUENTATION BASIN		
38	MAINTENANCE ACCESS		
39	FIRE WIDER PUMP TRANSFORMER		
40	480V MCC TRANSFORMERS		
41	PROPERTY BOUNDARY		
42	PROPERTY BOUNDARY		
43	SECURITY FENCE		

GENERAL LEGEND	
	SIGNAL SURGING
	ASPHALTE SURGING
	CONCRETE SURGING
	SEEDING

TERMINAL POINTS	
T1	ACCESS ROAD (AT CONNECTION TO WEST VIRGINIA STATE ROUTE 2)
T2	NATURAL GAS
T3	SAWNEY CENTER
T4	PROCESS WATER (WPPY)
T5	RAW WATER (RWPPY)
T6	WATER
T7	ELECTRICAL TRANSMISSION (WASHINGTON SUBSTATION)

NOTES

- THIS DRAWING IS THE RESULT OF THE SITE INVESTIGATION AND IS SUBJECT TO REVISIONS AS A RESULT OF DETAILED DESIGN AND DUE TO UNUSUAL CONDITIONS IN THE FIELD.
- THE EXISTING BACKGROUND OF THIS DRAWING WAS BASED ON THE TRC - PROPOSED SITE WORKS, FIGURE 4, DRAWING NO. 13-1001-01-012, PROVIDED IN SECTION 010 PARTS OF THE RFP.

NOT TO BE USED FOR CONSTRUCTION

PROJECT: MOUNDVILLE POWER, LLC
 MOUNDVILLE POWER COMBINED CYCLE
 SITE ARRANGEMENT

DATE: 08/21/14
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]

BLACK & VEATCH
 1500 BROADWAY, SUITE 1000
 DENVER, CO 80202
 TEL: 303.733.1000
 FAX: 303.733.1001
 WWW.BV.COM

SCALE: 1"=100'

DATE: 08/21/14

REVISIONS AND RECORD OF ISSUE

NO.	DATE	DESCRIPTION
1	08/21/14	ISSUED FOR PERIODICAL REVIEW
2	08/21/14	ISSUED FOR PERIODICAL REVIEW
3	08/21/14	ISSUED FOR PERIODICAL REVIEW
4	08/21/14	ISSUED FOR PERIODICAL REVIEW
5	08/21/14	ISSUED FOR PERIODICAL REVIEW

ATTACHMENT G
PROCESS DESCRIPTION

Attachment G

Process Description

The Moundsville Power Plant will generate approximately 631 megawatts (MW)¹ of electricity that will be sold on the Pennsylvania-New Jersey-Maryland Interconnection LLC (PJM) regional electric grid. Pipeline-quality natural gas used by the plant's combustion turbines will be purchased from local suppliers, and will take advantage of the gas produced in nearby natural gas shale plays. In addition, the combustion turbines may fire a blend of pipeline-quality natural gas with up to 25% ethane.

Electricity will be generated using two (2) combined-cycle combustion turbines (CCCT-1 and CCCT-2) each rated at 197 MW (at various ambient temperature design conditions) and 2,232 million Btu per hour (MMBtu/hr)². Electricity generated by the combustion turbines will be routed through a local electrical substation and sold on the grid.

To enhance the plant's overall efficiency and increase the amount of electric generated by the plant, the hot exhaust gases from the combustion turbines is routed to downstream Heat Recovery Steam Generators (HRSGs). The HRSGs contain a series of heat exchangers designed to recover the heat from the turbines' exhaust gas and produce steam, as in a boiler. Each combustion turbine will have its own HRSG. Cooled exhaust gas passing through the HRSGs is vented to the atmosphere through emission points CCCT-1 and CCCT-2. The Selective Catalytic Reduction (SCR) and Oxidation Catalyst control devices used to reduce NO_x and CO emissions from the combustion turbines will be incorporated into the HRSGs, at locations where the emission control reactions optimally occur.

¹ Plant output varies by several factors, including ambient temperature, relative humidity, fuel, load level, whether duct firing or evaporative cooling are in use, etc. 630.874 MW is the expected plant output at a 40°F ambient temperature design condition, 60% relative humidity, at base load, firing a natural gas/ethane fuel mix, with 65% duct firing, and with the combustion turbine evaporative cooling systems off.

² Combustion turbine output and heat input vary by several factors, including ambient temperature, relative humidity, fuel, load level, whether duct firing or evaporative cooling are in use, etc. 196.9 MW is the expected combustion turbine output under several operating cases. 2,232 MMBtu/hr is the expected heat input for a single combustion turbine at a 40°F ambient temperature design condition, 60% relative humidity, at base load, firing natural gas, with 100% duct firing, and with the evaporative cooling system off (Case 45).

The SCRs involve the injection of aqueous ammonia (NH_3) with a concentration of less than 20% by weight into the combustion turbine exhaust gas streams. Ammonia reacts with NO_x in the exhaust gas stream, reducing it to elemental nitrogen (N_2) and water vapor (H_2O). The aqueous ammonia will be stored on-site in one (1) storage tank, with a capacity of 20,000 gallons. The aqueous ammonia storage tank will not normally vent to the atmosphere. It will be equipped with pressure relief valves that would only vent in the event of an emergency. The Oxidation Catalysts do not require the use of chemical reagents.

Steam generated in the HRSGs is routed to a steam driven electric generator. This generator produces up to an additional 237 MW³ of electricity that is also sold on the grid. Electricity generated by the two (2) combustion turbines and the single steam generator represent the plant's total electrical output.

Water from the plant's wet, mechanical draft Cooling Tower is used to cool the steam driven electric generator. Make-up water is added to the Cooling Tower as necessary to account for water evaporated in the Cooling Tower. Exhaust from the Cooling Tower is vented through emission point CT-1. Steam condensate from the steam generator is routed back to the HRSGs for reuse in the steam cycle.

Support equipment will also be used by the plant to assist with facility operations. A 100 MMBtu/hr Auxiliary Boiler is used to produce steam for plant support. In addition, a 1,500 kW (approximately 2,000 hp) Emergency Generator (EG-1) is used for emergency backup electric power, and a 500 hp Fire Water Pump (FP-1) will be used for plant fire protection. Both the Emergency Generator and the Fire Water Pump will run on ultra low sulfur diesel (ULSD) fuel, and will be periodically operated for short periods per manufacturer's maintenance instructions to ensure operational readiness in the event of an emergency. The ULSD fuel will be stored in two (2) small storage tanks; the 500 gallon Fire Water Pump Tank (ST-1), and the 3,000 gallon Emergency Generator Tank (ST-2).

³ Steam turbine generator output input varies by several factors, including ambient temperature, relative humidity, combustion turbine fuel, load level, whether duct firing or evaporative cooling are in use, etc. 237.074 MW is the expected steam turbine generator output at a 40°F ambient temperature design condition, at 60% relative humidity, with the combustion turbines at base load, firing a natural gas/ethane fuel mix, with 65% duct firing, and the evaporative cooling systems off (Case 108).

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
<i>EQUIPMENT INCLUDED IN CLASS II ADMINISTRATIVE UPDATE</i>						
CCCT-1	CCCT-1	Combined-Cycle Combustion Turbine	2017	2,232 MMBtu/hr	New	DLNC & SCR, Oxidation Catalyst
CCCT-2	CCCT-2	Combined-Cycle Combustion Turbine	2017	2,232 MMBtu/hr	New	DLNC & SCR, Oxidation Catalyst
CT-1	CT-1	Cooling Tower	2017	164,110 gpm	New	NA
NA	NA	CCCT-1 Heat Recovery Steam Generator with Duct Burners	2017	187.61 MMBtu/hr	New	NA
NA	NA	CCCT-2 Heat Recovery Steam Generator with Duct Burners	2017	187.61 MMBtu/hr	New	NA
NA	NA	Steam Turbine Electric Generator	2017	237 MW	New	NA
FP-1	FP-1	Firewater Pump	2017	500 hp	New	NA
<i>EQUIPMENT NOT INCLUDED IN CLASS II ADMINISTRATIVE UPDATE</i>						
AB-1	AB-1	Auxiliary Boiler	2017	100 MMBtu/hr	New	ULNB, FGR
EG-1	EG-1	Emergency Electric Generator	2017	1,500 kW	New	NA
ST-1	ST-1	Fire Water Pump Tank (ULSD)	2017	500 gallons	New	NA
ST-2	ST-2	Emergency Generator Tank (ULSD)	2017	3,000 gallons	New	NA
NA	NA	Aqueous Ammonia Storage Tank 1	2017	20,000 gallons	New	NA

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 (mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
EQUIPMENT INCLUDED IN CLASS II ADMINISTRATIVE UPDATE															
CCCT-1	Upward Vertical Stack	CCCT- 1	Comb. Cycle Combust. Turbine	NA	Low NOx Burners & SCR, Oxidation Catalyst	C	8,760	NO _x	112.0	494.1	16.3	74.9	Gas	EE	4.2
								CO	32.5	203.0	9.9	104.1	Gas	EE	2.6
								Total VOC	5.7	38.6	5.7	38.6	Gas	EE	1.5
								PM/PM ₁₀ /PM _{2.5}	8.9	39.6	8.9	39.6	Solid	EE	2.3
								SO ₂	0.63	2.8	0.63	2.8	Gas	EE	0.2
								Sulfur Acid Mist	0.41	1.8	0.41	1.8	Solid	EE	0.1
								Lead	0.001	0.005	0.001	0.005	Solid	AP-42	<0.001
								Acetaldehyde	0.09	0.39	0.08	0.35	Gas	AP-42	0.02
								Acrolein	0.01	0.06	0.01	0.05	Gas	AP-42	0.003
								Benzene	0.03	0.12	0.02	0.11	Gas	AP-42	0.006
								Ethylbenzene	0.07	0.31	0.06	0.28	Gas	AP-42	0.02
								Formaldehyde	0.67	2.99	0.61	2.69	Gas	AP-42	0.2
								Hexane	0.33	1.43	0.3	1.29	Gas	AP-42	0.08
								Naphthalene	0.003	0.013	0.003	0.01	Gas	AP-42	0.001
								POM	0.005	0.021	0.004	0.19	Gas	AP-42	0.001
								Toluene	0.29	1.27	0.26	1.14	Gas	AP-42	0.07
								Xylenes	0.14	0.63	0.13	0.56	Gas	AP-42	0.03
								Total HAP	1.66	7.25	1.49	6.53	Gas	AP-42	0.4
								CO _{2e}	272,556	1,193,797	272,556	1,193,797	Gas	Sub. C	70,459
CCCT-2	Upward Vertical Stack	CCCT-2	Comb. Cycle Combust. Turbine	NA	Low NOx Burners & SCR, Oxidation Catalyst	C	8,760	NO _x	112.0	494.1	16.3	74.9	Gas	EE	4.2
								CO	32.5	203.0	9.9	104.1	Gas	EE	2.6
								Total VOC	5.7	38.6	5.7	38.6	Gas	EE	1.5
								PM/PM ₁₀ / PM _{2.5}	8.9	39.6	8.9	39.6	Solid	EE	2.3
								SO ₂	0.63	2.8	0.63	2.8	Gas	EE	0.2
								Sulfur Acid Mist	0.41	1.8	0.41	1.8	Solid	EE	0.1
								Lead	0.001	0.005	0.001	0.005	Solid	AP-42	<0.001
								Acetaldehyde	0.09	0.39	0.08	0.35	Gas	AP-42	0.02
								Acrolein	0.01	0.06	0.01	0.05	Gas	AP-42	0.003
								Benzene	0.03	0.12	0.02	0.11	Gas	AP-42	0.006
								Ethylbenzene	0.07	0.31	0.06	0.28	Gas	AP-42	0.02
								Formaldehyde	0.67	2.99	0.61	2.69	Gas	AP-42	0.2
								Hexane	0.33	1.43	0.3	1.29	Gas	AP-42	0.08
								Naphthalene	0.003	0.013	0.003	0.01	Gas	AP-42	0.001
								POM	0.005	0.021	0.004	0.19	Gas	AP-42	0.001
								Toluene	0.29	1.27	0.26	1.14	Gas	AP-42	0.07
								Xylenes	0.14	0.63	0.13	0.56	Gas	AP-42	0.03
								Total HAP	1.66	7.25	1.49	6.53	Gas	AP-42	0.4
								CO _{2e}	272,556	1,193,797	272,556	1,193,797	Gas	Sub. C	70,459

• For turbines CCCT-1 and CCCT-2, annual NOx, CO, VOC, and PM represents combined steady state, start-up, and shutdown emission rates.

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 (mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
CT-1	NA	CT-1	Cooling Tower	NA	NA	C	8,760	PM PM ₁₀ PM _{2.5}	0.99 0.57 0.01	4.34 2.48 0.01	0.99 0.57 0.01	4.34 2.48 0.01	Solid Solid Solid	EE EE EE	0.18 0.1 <0.001
FP-1	Exhaust	FP-1	Fire Water Pump	NA	NA	As Required	500	NO _x CO Total VOC PM/PM ₁₀ / PM _{2.5} SO ₂ Acetaldehyde Benzene Formaldehyde Toluene Total HAP CO _{2e}	2.98 2.87 0.33 0.17 0.01 0.003 0.003 0.004 <0.001 0.01 596	0.74 0.72 0.08 0.04 0.01 <0.001 <0.001 <0.001 <0.001 0.01 149	2.98 2.87 0.33 0.17 0.01 0.003 0.003 0.004 <0.001 0.01 596	0.74 0.72 0.08 0.04 0.01 <0.001 <0.001 <0.001 <0.001 0.01 149	Gas Gas Gas Gas Gas Gas Gas Gas Gas Gas Gas	O- NSPS O- NSPS O- NSPS O- NSPS MB AP-42 AP-42 AP-42 AP-42 AP-42 Sub. C	294 283 33 16 1.0 0.3 0.3 0.4 0.1 1.4 58,968
EQUIPMENT NOT INCLUDED IN CLASS II ADMINISTRATIVE UPDATE															
ST-1	Upward Vertical Stack	ST-1	Diesel Storage Tank	NA	NA	C	8,760	Total VOC	<0.001	<0.001	<0.001	<0.001	Gas	AP-42	NA
ST-2	Upward Vertical Stack	ST-2	Diesel Storage Tank	NA	NA	C	8,760	Total VOC	<0.001	<0.001	<0.001	<0.001	Gas	AP-42	NA

**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 (mg/m ³)
		ID No.	Source	ID No.	Device Type	Short Term ²	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
AB-1	Upward Vertical Stack	AB-1	Aux. Boiler	NA	Ultra Low NOx Burners & FGR	As Required	2,000	NO _x	4.00	4.00	2.00	2.00	Gas	EE	5.3
								CO	4.00	4.00	4.00	4.00	Gas	EE	11
								Total VOC	0.60	0.60	0.60	0.60	Gas	EE	1.6
								PM/PM ₁₀ /PM _{2.5}	0.50	0.50	0.50	0.50	Gas	EE	1.3
								SO ₂	0.06	0.06	0.06	0.06	Gas	AP-42	0.2
								Sulfuric Acid Mist	0.005	0.005	0.005	0.005	Solid	EE	0.01
								Lead	<0.001	<0.001	<0.001	<0.001	Solid	AP-42	0.003
								Benzene	<0.001	<0.001	<0.001	<0.001	Gas	AP-42	0.003
								Formaldehyde	0.007	0.007	0.007	0.007	Gas	AP-42	0.02
								Hexane	0.18	0.18	0.18	0.18	Gas	AP-42	0.5
								Toluene	<0.001	<0.001	<0.001	<0.001	Gas	AP-42	0.003
								Total HAP	0.18	0.18	0.18	0.18	Gas	AP-42	0.5
								CO _{2e}	12,081	12,081	12,081	12,081	Gas	Sub. C	32,247
EG-1	Exhaust	EG-1	Emerg. Electric Gen.	NA	NA	As Required	500	NO _x	11.18	2.79	11.18	2.79	Gas	O- NSPS	298
								CO	11.53	2.88	11.53	2.88	Gas	O- NSPS	308
								Total VOC	1.24	0.31	1.24	0.31	Gas	O- NSPS	33
								PM/PM ₁₀ /PM _{2.5}	0.40	0.10	0.40	0.10	Gas	O- NSPS	11
								SO ₂	0.02	0.006	0.02	0.006	Gas	MB	0.5
								Benzene	0.01	0.003	0.01	0.003	Gas	AP-42	0.3
								Formaldehyde	0.001	<0.001	0.001	<0.001	Gas	AP-42	0.03
								Toluene	0.004	0.001	0.004	0.001	Gas	AP-42	0.1
								Xylenes	0.003	<0.001	0.003	<0.001	Gas	AP-42	0.08
								Total HAP	0.03	0.006	0.03	0.006	Gas	AP-42	0.8
								CO _{2e}	2,416	604	2,416	604	Gas	Sub. C	64,488

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, CS₂, VOCs, H₂S, Inorganics, Lead, Organics, O₃, NO, NO₂, SO₂, SO₃, all applicable Greenhouse Gases (including CO₂ and methane), etc. **DO NOT LIST** H₂, H₂O, N₂, O₂, 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/m³) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO₂, use units of ppmv (See 45CSR10).

**Attachment J
EMISSION POINTS DATA SUMMARY SHEET**

Table 2: Release Parameter Data								
Emission Point ID No. <i>(Must match Emission Units Table)</i>	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow ¹ (acfm) <i>at operating conditions</i>	Velocity (fps)	Ground Level <i>(Height above mean sea level)</i>	Stack Height ² <i>(Release height of emissions above ground level)</i>	Northing	Easting
<i>EQUIPMENT INCLUDED IN CLASS II ADMINISTRATIVE UPDATE</i>								
CCGT-1	18.5	161.3	1,032,733	64	720	175.0	4,417.182	517.364
CCGT-2	18.5	161.3	1,032,733	64	720	175.0	4,417.167	517.327
CT-1⁽¹⁾	40	66	1,450,000	19.2	720	60	4,417.099	517.447
FP-1	0.5	900	2,700	229	720	11	4,417.151	517.373
<i>EQUIPMENT NOT INCLUDED IN CLASS II ADMINISTRATIVE UPDATE</i>								
AB-1	3.5	300	100,000	173	720	42	4,417.229	517.395
EG-1	1.5	900	10,000	94	720	13	4,417.299	517.339
ST-1	NA	Ambient	NA	NA	720	NA	4,417.151	517.373
ST-2	NA	Ambient	NA	NA	720	NA	4,417.299	517.339

(1) Cooling tower diameter, flow, and velocity are per individual cell.

ATTACHMENT L
EMISSIONS UNIT DATA SHEETS

Attachment L
Emission Unit Data Sheet
 (INDIRECT HEAT EXCHANGER)

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

Equipment Information: Combined Cycle Gas Turbine CCCT-1

1. Manufacturer: GE or equivalent	2. Model No. 7FA.04 Serial No. NA
3. Number of units: 1	4. Use – Electric Generation
5. Rated Boiler Horsepower: NA hp	6. Boiler Serial No.: NA
7. Date constructed: 2017	8. Date of last modification and explain: NA
9. Maximum design heat input per unit: 2,232 ×10 ⁶ BTU/hr	10. Peak heat input per unit: 2,232 ×10 ⁶ BTU/hr
11. Steam produced at maximum design output: NA LB/hr NA psig	12. Projected Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52
13. Type of firing equipment to be used: <input type="checkbox"/> Pulverized coal <input type="checkbox"/> Spreader stoker <input type="checkbox"/> Oil burners <input checked="" type="checkbox"/> Natural Gas Burner <input type="checkbox"/> Others, specify	14. Proposed type of burners and orientation: <input type="checkbox"/> Vertical <input type="checkbox"/> Front Wall <input type="checkbox"/> Opposed <input type="checkbox"/> Tangential <input checked="" type="checkbox"/> Others, specify Dry Low NO_x Burners
15. Type of draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced	16. Percent of ash retained in furnace: NA %
17. Will flyash be reinjected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	18. Percent of carbon in flyash: NA %

Stack or Vent Data

19. Inside diameter or dimensions: 18.5 ft.	20. Gas exit temperature: 160-183 °F
21. Height: 175.0 ft.	22. Stack serves: <input checked="" type="checkbox"/> This equipment only <input type="checkbox"/> Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
23. Gas flow rate: 685,767-1,114,433 actual ft ³ /min	
24. Estimated percent of moisture: 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	32.5	NA	NA	NA
Hydrocarbons	NA	NA	NA	NA
NO _x	112.0	NA	NA	NA
Pb	0.001	NA	NA	NA
PM/PM ₁₀ /PM _{2.5}	8.9	NA	NA	NA
SO ₂	0.63	NA	NA	NA
VOCs	5.7	NA	NA	NA
Total HAPs	1.66	NA	NA	NA
CO _{2e}	272,556	NA	NA	NA
Sulfuric Acid Mist	0.41	NA	NA	NA

Emissions represent hourly steady state emission rates only.

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

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	9.9	NA	NA	NA
Hydrocarbons	NA	NA	NA	NA
NO _x	16.3	NA	NA	NA
Pb	0.001	NA	NA	NA
PM/PM ₁₀ /PM _{2.5}	8.9	NA	NA	NA
SO ₂	0.63	NA	NA	NA
VOCs	5.7	NA	NA	NA
Total HAPs	1.49	NA	NA	NA
CO _{2e}	272,556	NA	NA	NA
Sulfuric Acid Mist	0.41	NA	NA	NA

Emissions represent hourly steady state emission rates only.

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

NA

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.

See Attachment O

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

See Attachment O

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

See Attachment O

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

See Attachment O

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

NA

Attachment L
Emission Unit Data Sheet
 (INDIRECT HEAT EXCHANGER)

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

Equipment Information: Combined Cycle Gas Turbine CCCT-2

1. Manufacturer: GE or equivalent	2. Model No. 7FA.04 Serial No. NA
3. Number of units: 1	4. Use – Electric Generation
5. Rated Boiler Horsepower: NA hp	6. Boiler Serial No.: NA
7. Date constructed: 2017	8. Date of last modification and explain: NA
9. Maximum design heat input per unit: 2,232 ×10 ⁶ BTU/hr	10. Peak heat input per unit: 2,232 ×10 ⁶ BTU/hr
11. Steam produced at maximum design output: NA LB/hr NA psig	12. Projected Operating Schedule: Hours/Day 24 Days/Week 7 Weeks/Year 52
13. Type of firing equipment to be used: <input type="checkbox"/> Pulverized coal <input type="checkbox"/> Spreader stoker <input type="checkbox"/> Oil burners <input checked="" type="checkbox"/> Natural Gas Burner <input type="checkbox"/> Others, specify	14. Proposed type of burners and orientation: <input type="checkbox"/> Vertical <input type="checkbox"/> Front Wall <input type="checkbox"/> Opposed <input type="checkbox"/> Tangential <input checked="" type="checkbox"/> Others, specify Dry Low NO_x Burners
15. Type of draft: <input checked="" type="checkbox"/> Forced <input type="checkbox"/> Induced	16. Percent of ash retained in furnace: NA %
17. Will flyash be reinjected? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	18. Percent of carbon in flyash: NA %

Stack or Vent Data

19. Inside diameter or dimensions: 18.5 ft.	20. Gas exit temperature: 160-183°F
21. Height: 175.0 ft.	22. Stack serves: <input checked="" type="checkbox"/> This equipment only <input type="checkbox"/> Other equipment also (submit type and rating of all other equipment exhausted through this stack or vent)
23. Gas flow rate: 685,767-1,114,433 actual ft ³ /min	
24. Estimated percent of moisture: 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	32.5	NA	NA	NA
Hydrocarbons	NA	NA	NA	NA
NO _x	112.0	NA	NA	NA
Pb	0.001	NA	NA	NA
PM/PM ₁₀ /PM _{2.5}	8.9	NA	NA	NA
SO ₂	0.63	NA	NA	NA
VOCs	5.7	NA	NA	NA
Total HAPs	1.66	NA	NA	NA
CO _{2e}	272,556	NA	NA	NA
Sulfuric Acid Mist	0.41	NA	NA	NA

Emissions represent hourly steady state emission rates only.

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

Pollutant	Pounds per Hour lb/hr	grain/ACF	@ °F	PSIA
CO	9.9	NA	NA	NA
Hydrocarbons	NA	NA	NA	NA
NO _x	16.3	NA	NA	NA
Pb	0.001	NA	NA	NA
PM/PM ₁₀ /PM _{2.5}	8.9	NA	NA	NA
SO ₂	0.63	NA	NA	NA
VOCs	5.7	NA	NA	NA
Total HAPs	1.49	NA	NA	NA
CO _{2e}	272,556	NA	NA	NA
Sulfuric Acid Mist	0.41	NA	NA	NA

Emissions represent hourly steady state emission rates only.

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

NA

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.

See Attachment O

TESTING PLAN: Please describe any proposed emissions testing for this process equipment or air pollution control device.

See Attachment O

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

See Attachment O

REPORTING: Please describe the proposed frequency of reporting of the recordkeeping.

See Attachment O

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

NA

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

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

Identification Number (as assigned on *Equipment List Form*): **Cooling Tower CT-1**

<p>1. Name or type and model of proposed affected source:</p> <p style="text-align: center;">Cooling Tower</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p>Cooling Water: Circulating Water – 164,110 gpm Make-up Water – 155,600 gph</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p>Cooling Water: Circulating Water – 164,110 gpm Make-up Water – 155,600 gph</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p style="text-align: center;">NA</p>

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

6. Combustion Data (if applicable): NA			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel):			
@		°F and	psia.
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
(g) Proposed maximum design heat input:			× 10 ⁶ BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

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

@	NA	°F and	NA	psia
a. NO _x	NA	lb/hr	NA	grains/ACF
b. SO ₂	NA	lb/hr	NA	grains/ACF
c. CO	NA	lb/hr	NA	grains/ACF
d. PM ₁₀	0.57	lb/hr	NA	grains/ACF
e. Hydrocarbons	NA	lb/hr	NA	grains/ACF
f. VOCs	NA	lb/hr	NA	grains/ACF
g. Pb	NA	lb/hr	NA	grains/ACF
h. Specify other(s)				
PM	0.99	lb/hr	NA	grains/ACF
PM _{2.5}	0.01	lb/hr	NA	grains/ACF
		lb/hr	NA	grains/ACF
		lb/hr	NA	grains/ACF

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

(2) Complete the Emission Points Data Sheet.

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

MONITORING
See Attachment O

RECORDKEEPING
See Attachment O

REPORTING
See Attachment O

TESTING
See Attachment O

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

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

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

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

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

NA

**Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL**

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

Identification Number (as assigned on *Equipment List Form*): **Firewater Pump FP-1**

<p>1. Name or type and model of proposed affected source:</p> <p style="text-align: center;">Firewater Pump – 500 hp</p>
<p>2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.</p>
<p>3. Name(s) and maximum amount of proposed process material(s) charged per hour:</p> <p style="text-align: center;">Firewater – As Required</p>
<p>4. Name(s) and maximum amount of proposed material(s) produced per hour:</p> <p style="text-align: center;">Firewater – As Required</p>
<p>5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:</p> <p style="text-align: center;">NA</p>

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

6. Combustion Data (if applicable):					
(a) Type and amount in appropriate units of fuel(s) to be burned:					
Ultra Low Sulfur Diesel Fuel – As Required					
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:					
0.0015 % sulfur by weight					
(c) Theoretical combustion air requirement (ACF/unit of fuel):					
NA	@	NA	°F and	NA	psia.
(d) Percent excess air: NA					
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:					
NA					
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:					
NA					
(g) Proposed maximum design heat input: NA × 10 ⁶ BTU/hr.					
7. Projected operating schedule:					
Hours/Day	24	Days/Week	7	Weeks/Year	52

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

@	NA	°F and	Ambient	psia
a. NO _x	2.98	lb/hr	NA	grains/ACF
b. SO ₂	0.01	lb/hr	NA	grains/ACF
c. CO	2.87	lb/hr	NA	grains/ACF
d. PM/PM ₁₀ /PM _{2.5}	0.17	lb/hr	NA	grains/ACF
e. Hydrocarbons	NA	lb/hr	NA	grains/ACF
f. VOCs	0.33	lb/hr	NA	grains/ACF
g. Pb	NA	lb/hr	NA	grains/ACF
h. Specify other(s)				
CO _{2e}	596	lb/hr	NA	grains/ACF
Total HAPs	0.014	lb/hr	NA	grains/ACF
		lb/hr	NA	grains/ACF
		lb/hr	NA	grains/ACF

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

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

MONITORING
See Attachment O

RECORDKEEPING
See Attachment O

REPORTING
See Attachment O

TESTING
See Attachment O

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

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

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

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

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

NA

ATTACHMENT N
SUPPORTING EMISSIONS CALCULATIONS

Attachment N

Supporting Emission Calculations

Potential emissions from the Project's emission sources were estimated using various calculation methodologies including vendor data, emission factors from USEPA's Compilation of Air Pollutant Emission Factors (AP-42) publication, material balances, New Source Performance Standards (NSPS) emission standards, and/or engineering calculations. Please refer to **Appendix 1** of the application package for the CD containing vendor emissions and performance data, along with emission calculations demonstrating that the changes in emissions from these revisions qualify as a "Class II Administrative Update" under 45 CSR-13-4.

ATTACHMENT O
MONITORING, RECORDKEEPING, REPORTING, AND
TESTING PLANS

Attachment O

Monitoring, Recordkeeping, Reporting and Testing Plans

The monitoring, recordkeeping, reporting, and testing requirements are as specified in the existing approval air permit (R14-0030). No changes to these requirements are proposed for this Administrative Update.

ATTACHMENT P
AIR QUALITY PERMIT NOTICE

Attachment P
AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Moundsville Power, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update to the approved Air Permit-to-Construct (R14-0030), for an electric power generation facility located on State Route 2, south of Moundsville, in Marshall County, West Virginia. The latitude and longitude coordinates are: 39.90447 and -80.79707. The applicant estimates the net increase in potential to discharge the following Regulated Air Pollutants will be 10.01 tons per year of nitrogen oxides, 6.31 tons per year of carbon monoxide, 159,868 tons per year of carbon dioxide equivalent emissions, 3.46 tons per year of volatile organic compounds, 12.94 tons per year of particulate matter, 0.77 tons per year of sulfur dioxide, 0.001 tons per year of lead, and 1.15 tons per year of hazardous air pollutants. Startup of operation is expected to occur in the 1st quarter of 2018. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice. Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the (day) day of April, 2015.

By: Moundsville Power, LLC
Jon M. Williams
Managing Member
1214 3rd Street
Box 1138
Moundsville, West Virginia 26041

*Appendix 3 - Permit Markups with Requested
Revisions*

1.0 Emission Units

Table 1.0

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device ¹
CCCT-1	CCCT-1	Combustion Turbine	2016	2,232 MMBTU/hr	DLNB, SCR & OC
CCCT-2	CCCT-2	Combustion Turbine	2016	2,232 MMBTU/hr	DLNB, SCR & OC
HRSG-1	CCCT-1	HRSG w/ Duct Burner	2016	187.61 MMBTU/hr	SCR & OC
HRSG-2	CCCT-2	HRSG w/ Duct Burner	2016	187.61 MMBTU/hr	SCR & OC
CT-1	CT-1	Cooling Tower	2016	164,110 gpm	N
AB-1	AB-1	Auxiliary Boiler	2017	100 MMBTU/hr	ULNB & FGR
FP-1	FP-1	Fire Water Pump	2017	500 hp	N
EG-1	EG-1	Emergency Generator	2017	1,500 kW	N

¹ SCR = Selective Catalytic Reduction; DLNB = Dry Low NO_x Burners; OC = Oxidation Catalyst; ULNB = Ultra Low NO_x Burner; FGR = Flue Gas Recirculation; N = None

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. The Moundsville Power, LLC Moundsville Power Plant shall consist of only the pollutant-emitting equipment and processes identified under Section 1.0 of this permit and any other processes/units defined as De Minimis per 45CSR13. In accordance with the information filed in Permit Application R14-0030, the equipment shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants and the equipment/processes shall use the specified control devices.

4.1.2 Hourly emissions from each combustion turbine/HRSG unit shall not exceed the following (except in cases of startup and shutdown):

Pollutant	Emission Rate (lb/hr)
CO	9.92 9.2 (based on a 1 hour average)
NO _x	16.3 15.2 (based on a 1 hour average)
PM ⁽¹⁾	7.6 8.9
PM ₁₀ ⁽¹⁾	7.6 8.9
PM _{2.5} ⁽¹⁾	7.6 8.9
SO ₂	0.5 0.63
VOCs	5.3 5.7
Pb	0.001 0.0012
GHGs (CO _{2e})	254,315 272,556
H ₂ SO ₄	0.36 0.41
HAPs	1.36 1.49

¹ Includes both filterable and condensable particulate matter

For clarity, please revise as shown.

4.1.3 The combustion turbine/HRSG units (~~combined~~) shall not exceed the following parameters for startups and shutdowns:

Pollutant ¹	Type of Event ²	Emission Factor (lb/event)	Number of Events/Year (combined)	Combined Emissions (lb/yr)
NO _x	Hot Start	19	416	7,904
	Warm Start	33	96	3,168
	Cold Start	47	8	376
	Shutdown	5	520	2,600
	Total			14,048

4.1.4 Total combined annual emissions from the two combustion turbine/HRSG units shall not exceed the following.

Pollutant	tons/year
CO	202.20 208.15
NO _x	140.20 149.81
PM ⁽¹⁾	67.40 79.15
PM ₁₀ ⁽¹⁾	67.40 79.15
PM _{2.5} ⁽¹⁾	67.40 79.15
SO ₂	4.80 5.55
VOCs	73.90 77.28
H ₂ SO ₄	3.10 3.57
Lead	0.01
GHGs (CO _{2e})	2,227,797.00 2,387,593
Total HAPs	11.90 13.06

¹ Includes both filterable and condensable particulate matter

Compliance with the annual emission limits shall be determined using CEMs for CO and NO_x. For all other pollutants, it shall be determined by multiplying the hourly steady state emissions in condition 4.1.2 by the number of hours of steady state operation and adding the appropriate start up and shut down emissions from condition 4.1.3.

4.1.5 Pursuant to the BACT provisions under 45CSR14, the permittee shall meet the following requirements for each combustion turbine/HRSG unit:

PSD Pollutant									
CO		NO _x		PM _{2.5} /PM ₁₀ /PM ⁽¹⁾		VOCs		GHGs	
Limit	Tech. ⁽²⁾	Limit	Tech. ⁽²⁾	Limit	Tech. ⁽²⁾	Limit ⁽⁴⁾	Tech. ⁽²⁾	Limit (CO _{2e})	Tech. ⁽²⁾
2.0 ppmvd	OC, CP	2.0 ppmvd	DLNB, SCR, CP	8.9 7.6 lb/hr	AF, NG, CP	1ppmvd 2ppmvd	OC, CP	792 793 lb/ MW- hr ⁽³⁾	NG, GE7FA

- ¹ PM emission rates are given in total particulate (filterable + condensable) matter
- ² CP=Good Combustion Practices; SCR = Selective Catalytic Reduction; DLNB = Dry Low NOx Burners; OC = Oxidation Catalyst; AF = inlet air filtration; NG = Use of Natural Gas (or a Natural Gas/Ethane blend) as a fuel; GE7FA = use of GE Frame 7FA.04 turbines.
- ³ Based on combined cycle gross MW output, at 59°F ambient temperature, with no duct firing, evaporative cooling on, and the combustion turbines firing natural gas and operating at base load.
- ⁴ 1ppm limit applies when duct firing is not occurring. 2 ppm limit applies when duct firing is occurring. Ppm values are by volume, dry basis, corrected to 15% oxygen.

- 4.1.24.1 Compliance with the above limits shall be determined by purchasing a certified engine.
 [40 CFR §60.4211(c)]
- 4.1.25 The emergency generator shall fire only nonroad diesel fuel that meets the requirements of 40 CFR 80.510(b).
 [40 CFR §60.4207(b)]
- 4.1.26 The emergency generator must meet all applicable requirements of 40 CFR 60 Subpart IIII.
 [40 CFR §63.6590(c)(1)]
- 4.1.27 Emissions from the fire water pump engine shall not exceed the following:

Pollutant	lb/hr	tpy
CO	2.87 1.44	0.74 0.36
NO _x	2.98 1.49	0.74 0.37
PM	0.17 0.08	0.74 0.03
PM ₁₀	0.17 0.08	0.74 0.03
PM _{2.5}	0.17 0.08	0.74 0.03
SO ₂	0.01	0.01
VOCs	0.33 0.17	0.74 0.04
GHGs (CO _{2e} basis)	596 309	0.74 77
HAPs	0.01	0.01

- 4.1.28 The fire water pump engine shall fire only ultra low sulfur diesel fuel with a sulfur content of no greater than 0.0015% by weight.
 [27]
- 4.1.29 The fire water pump engine shall not consume more than 14 gallons of fuel oil per hour.
- 4.1.30 The fire water pump engine shall not operate more than 100 hours per year nor more than 1 hour in any 24 consecutive hours for non emergency purposes (e.g. maintenance and testing).
- 4.1.31 Emissions from the fire water pump engine shall not exceed the following (all limits in g/hp-hr):

NMHC + NO _x	PM
3	0.15

[40 CFR §60.4205]

- 4.1.31.1 Compliance with the above limits shall be determined by purchasing a certified engine.
 [40 CFR §60.4211(c)]

4.1.32 The fire water pump engine shall fire only nonroad diesel fuel that meets the requirements of 40 CFR 80.510(b).
[40 CFR §60.4207(b)]

4.1.33 The fire water pump engine must meet all applicable requirements of 40 CFR 60 Subpart IIII.
[40 CFR §63.6590(c)(1)]

4.1.34 Emissions from the cooling tower shall not exceed the following:

Pollutant	lb/hr	tpy
PM	0.72 0.99	3.2 4.34
PM ₁₀	0.5 0.57	2.1 2.5
PM _{2.5}	0.01	0.01

4.1.35 The cooling tower shall be operated with a drift eliminator to reduce the drift rate to no more than 0.0005%.

4.1.36. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

*Appendix 4 - Check for Class II Administrative
Update Fee*

MOUNDVILLE POWER LLC
360 DELAWARE AVE., SUITE 406
BUFFALO, NY 14202

FIRST NIAGARA

1008

50-7044/2223
027

4/10/2015

PAY TO THE ORDER OF Air Pollution Control Commission Fund

\$ **300.00

Three Hundred and 00/100***** DOLLARS

MEMO



AUTHORIZED SIGNATURE

⑈00 1008⑈ ⑆ 2223 70440⑆00 790096 1595⑈

Details on Back



Security Features Included