The State of New Hampshire
**DEPARTMENT OF ENVIRONMENTAL SERVICES**
Thomas S. Burack, Commissioner

April 26, 2010

Thomas S. Burack, Chairman
New Hampshire Site Evaluation Committee
c/o New Hampshire Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

**RE: Status Report for Laidlaw Berlin BioPower, LLC Project, SEC Docket No. 2009-02**

Dear Chairman Burack:

In accordance with RSA 162-H:6 V, the New Hampshire Department of Environmental Services, Air Resources Division (DES) is required to provide the New Hampshire Site Evaluation Committee (NHSEC) with a progress report on the status of the Laidlaw Berlin BioPower, LLC Project (Laidlaw) application as it pertains to air emissions. Specifically, RSA 162-H:6 V requires that "all participating state agencies shall report their progress to the subcommittee within 90 days of the acceptance of the application, outlining draft permit conditions and specifying additional data requirements necessary to make a final decision." The purpose of this letter is to satisfy the requirements of this part.

## Draft Permit Conditions

The attached document contains the draft permit conditions that have been developed to date. Please note that these draft conditions are still preliminary and may change as DES continues to work with the applicant and completes its review of the application. DES expects to finalize all draft conditions around May 15, 2010, at which time DES will publish a public notice (including notice of a public hearing in Berlin) inviting public comment on the draft permit.

## Additional Data Requirements

On April 6, 2010, DES sent a letter (attached) to Laidlaw regarding certain aspects of the air permit application, particularly with respect to some of the emissions limits proposed by Laidlaw to comply with the Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) requirements of the federal New Source Review program, as well as Maximum Achievable Control Technology (MACT) technology based limits for Hazardous Air Pollutants regulated under Section 112 of the Clean Air Act. Specifically, DES requested that Laidlaw provide further justification for the limits proposed in the air permit application. Laidlaw submitted a response on April 19, 2010 (attached) that addressed some of issues identified in DES' April 6 letter. The April 19 letter also stated that responses to the remaining questions will be submitted in early May 2010.

In addition to the above, Laidlaw is required to conduct an ambient air dispersion impact analysis to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Further, because the proposed source is subject to the federal Prevention of

Significant Deterioration program, additional impact analyses are required to determine impacts on visibility and deposition in nearby federally designated Class I areas (Great Gulf Wilderness and Dry River Wilderness Areas). This Class I area impact analysis is reviewed by both DES and the Federal Land Manager (FLM), which has authority under Section 165 of the Clean Air Act to protect air quality values in Class I areas.

Laidlaw has submitted the aforementioned NAAQS compliance demonstration, which is currently under review by DES. The Class I impact analysis is a more complex iterative process where the applicant submits preliminary results and, based on those results, may be required to conduct more detailed analyses. The applicant has been working closely with DES and the FLM and is in the process of completing the required analyses. Based on discussions with the applicant, DES anticipates that these analyses will be completed in early May, at which time DES can conclude its review and draft any additional permit conditions in preparation for making the draft permit available for public comment by the middle of May. Based on this schedule, the 30-day public comment period would conclude around the middle of June, at which time DES will conduct a public hearing in Berlin. This will allow DES to review any comments and make a final determination regarding permit issuance by the July 26, 2010 deadline required under RSA 162-H:6 V.

If you have any questions on this matter, please contact me at (603) 271-2630 or via e-mail at gary.milbury@des.nh.gov.

Sincerely,

Gary D. Milbury, Jr.
Air Permit Programs Manager
Air Resources Division

Enclosures: Draft Permit Conditions
DES information request letter dated April 6, 2010
April 19, 2010 response to April 6 DES information request

Cc (w/ enclosures):

Michael J. Iacopino, Esq.
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**State of New Hampshire**
**Department of Environmental Services**
**Air Resources Division**

# Temporary Permit
# Prevention of Significant Deterioration (PSD)
# And
# Non-Attainment New Source Review (NSR) Permit

**Permit No:** TP-0000
**Date Issued:** DRAFT

DRAFT
April 26, 2010
SEC Status Report

This certifies that:

**Laidlaw Berlin BioPower, LLC**
**90 John St., 4th Floor**
**New York, NY 10038**

has been granted a Temporary Permit, PSD Permit, and NSR Permit for a:

**70 Megawatt Biomass Power Plant**

at the following facility and location:

**Berlin BioPower**
**57 Hutchins Street**
**Berlin, NH**

Facility ID No: **3300790137**
Application No: **09-0285** received December 16, 2009 – Initial Temporary, PSD, and NSR Permit

which includes devices that emit air pollutants into the ambient air as set forth in the permit application referenced above which was filed with the New Hampshire Department of Environmental Services, Air Resources Division (Division) in accordance with RSA 125-C of the New Hampshire Laws. Request for permit renewal is due to the Division at least 90 days prior to expiration of this permit and must be accompanied by the appropriate permit application forms.

This permit is valid upon issuance and expires on **TBD**.

_____
Director
Air Resources Division

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| Abbreviations and Acronyms | | | |
|---|---|---|---|
| AAL | Ambient Air Limit | MM | million |
| acf | actual cubic foot | MW | megawatt |
| ags | above ground surface | NAAQS | National Ambient Air Quality Standard |
| ASTM | American Society of Testing and Materials | NESHAP | National Emission Standard for Hazardous Air Pollutants |
| BACT | Best Available Control Technology | NG | Natural Gas |
| BACT | Best Available Control Technology | NHDES | New Hampshire Department of Environmental Services |
| Btu | British thermal units | NOx | Oxides of Nitrogen |
| CAA | Clean Air Act | NSPS | New Source Performance Standard |
| CAM | Compliance Assurance Monitoring | $PM_{10}$ | Particulate Matter < 10 microns |
| CEMS | Continuous Emission Monitoring System | $PM_{2.5}$ | Particulate Matter < 2.5 microns |
| COMS | Continuous Opacity Monitoring System | ppm | parts per million |
| cfm | cubic feet per minute | PSD | Prevention of Significant Deterioration |
| CFR | Code of Federal Regulations | psi | pounds per square inch |
| CO | Carbon Monoxide | PTE | Potential to Emit |
| $CO_2$ | Carbon Dioxide | RACT | Reasonably Available Control Technology |
| DER | Discrete Emission Reduction | RSA | New Hampshire Revised Statutes Annotated |
| | | RTAP | Regulated Toxic Air Pollutant |
| dscf | dry standard cubic feet | scf | standard cubic foot |
| dscm | dry standard cubic meters | SIP | State Implementation Plan |
| Env-A | New Hampshire Code of Administrative Rules – Air Resources Division | $SO_2$ | Sulfur Dioxide |
| ERC | Emission Reduction Credit | SSMP | Startup, Shutdown, and Malfunction Plan |
| EG | Emergency Generator | TSP | Total Suspended Particulate |
| ft | foot or feet | tpy | tons per consecutive 12-month period |
| $ft^3$ | cubic feet | USEPA | United States Environmental Protection Agency |
| gal | gallon | VOC | Volatile Organic Compound |
| HAP | Hazardous Air Pollutant | | |
| HCL | Hydrochloric Acid | | |
| hp | horsepower | | |
| hr | hour | | |
| kW | kilowatt | | |
| LAER | Lowest Achievable Emission Rate | | |
| lb | pound | | |
| MACT | Maximum Achievable Control Technology | | |

## I. Facility Description

Laidlaw Berlin BioPower, LLC (LBB) is proposing to convert and upgrade the existing facility equipment and infrastructure located at the former Fraser Pulp Mill in Berlin, New Hampshire in order to develop a biomass fueled energy generating facility. This project is considered new construction, not a modification or reconstruction of the former Fraser Pulp Mill. LBB (the Facility) will use whole tree wood chips and other low-grade clean wood as fuel, and will be capable of generating nominally 70 megawatts (MW) of electric power (gross output).

The primary emission unit will be a bubbling fluidized bed boiler rated at 1,013 million British thermal units per hour (MMBtu/hr), which is capable of generating up to 600,000 pounds per hour of steam at 825ºF and 850 psig. The proposed facility also includes a new wet cooling tower, two wood fuel off-loading and storage areas, a 500 kW emergency diesel generator, and a 288 hp diesel fire pump.

LBB will be a major stationary source of nitrogen oxides ($NO_x$) emissions, with potential $NO_x$ emissions greater than 100 tons per year. Coos County is designated as being in attainment for ozone; however, Coos County is within the New Hampshire portion of the Northeast Ozone Transport Region and as such, the proposed facility will be subject to state nonattainment review (Env-A 618), which requires the implementation of the Lowest Achievable Emission Rate (LAER), and offsets for its $NO_x$ emissions.

As a major stationary source located in an attainment area, LBB will also be subject to the applicable Prevention of Significant Deterioration (PSD) of air quality permit requirements. The Division has implemented the federal PSD Program permitting requirements (Env-A 619) to determine if a new major stationary source will cause or contribute to significant deterioration of air quality in the state. The PSD requirements include the completion of an air dispersion modeling analysis to demonstrate that the Project will not cause or contribute to an exceedance of the National Ambient Air Quality Standards (NAAQS), and that the maximum increases in pollutant concentrations over the existing baseline do not exceed the allowable PSD increments. The PSD program requires the implementation of Best Available Control Technology (BACT) for each regulated pollutant with potential emissions above the significance thresholds. These PSD pollutants include particulate matter (including Total Suspended Particulate (TSP), Particulate Matter less than 10 microns ($PM_{10}$), and Particulate Matter less than 2.5 microns ($PM_{2.5}$), sulfur dioxide ($SO_2$), carbon monoxide (CO), sulfuric acid mist ($H_2SO_4$), and beryllium.

The PSD program also requires additional impact analyses including:

1. Analysis of ambient air quality in the area the source would affect;
2. Analysis of other impacts that would occur as a result of the source and general commercial, residential, industrial, and other growth associated with the source; and
3. Analysis of impacts on Class I areas (the source is located within 50 kilometers of two Class I areas: the Great Gulf Wilderness Area approximately 18 kilometers to the south, and the Presidential Range Dry River Wilderness Area approximately 26 kilometers to the south).

LBB must also comply with the applicable subparts of the federal New Source Performance Standards (NSPS). LBB will be major source of HAP emissions, and, therefore, will require application of Maximum Available Control Technology (MACT) for HAPs pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAPS).

Table 1 below shows the major source applicability determination for the NSR and PSD programs for the proposed facility:

| Table 1 – PSD and NSR Applicability | | | | | |
|---|---|---|---|---|---|
| **Pollutant** | **Projected Project Emissions (tpy)** | **PSD Major Source Threshold (tpy)** | **PSD Significance Threshold (tpy)** | **Non-Attainment Threshold (tpy)** | **Triggers NSR/PSD?** |
| $PM/PM_{10}/PM_{2.5}$[1] | 52.3/51.2/51.2 | 250 | 25/15/10[2] | N/A | **PSD** |
| $SO_2$ | 101.3 | 250 | 40 | N/A | **PSD** |
| NOx | 266.5 | 250 | N/A | 100 | **NSR** |
| CO | 307.4 | 250 | 100 | N/A | **PSD** |
| VOCs | 40.6 | N/A | N/A | 50 | No[3] |
| $H_2SO_4$ | 15.5 | | 7 | | **PSD** |
| Lead | 0.2 | | 0.6 | | No |
| Beryllium | 0.005 | | 0.0004 | | **PSD** |
| Mercury | 0.015 | | 0.1 | | No |
| Vinyl Chloride | 0.08 | | 1 | | No |

## II. Permitted Activities

The Owner or Operator is authorized to construct and operate a 70 MW biomass powerplant comprised of the devices identified in Table 2, pollution control equipment identified in Table 4, and all associated ancillary equipment within the terms and conditions of this Permit.

## III. Significant Activities Identification

The activities identified in Table 2 are subject to and regulated by this Permit:

| Table 2 - Significant Activity Identification | | | |
|---|---|---|---|
| **Emission Unit ID** | **Device** | **Manufacturer, Model, Serial Number** | **Maximum Design Gross Heat Input Capacity and Permitted Fuel Type(s)[4]** |
| EU01 | Boiler #1 | Babcock and Wilcox<br>Model # Custom, N/A<br>One Primary Combustion Chamber - Bubbling Fluidized Bed<br>Four Startup Burners - Air atomized distillate oil<br>Serial # N/A | Primary Combustion Chamber<br>1013 MMBtu/hr – Clean wood chips<br>Approximately equivalent to 113 ton/hr<br>Four Startup Burners (each)<br>60 MMBtu/hr – No. 2 fuel oil<br>Approximately equivalent to 430 gal/hr |
| EU02 | 4-Cell Wet Cooling Tower | SPX Cooling Technologies<br>Model #: F499-4.0-4<br>Serial #: TBD | Nominal circulation rate = 60,000 gal/minute |
| EU03 | Emergency Generator | Caterpillar<br>Model # C15 ATTAC or equivalent<br>Serial # TBD | 4.71 MMBtu/hr – Diesel fuel oil<br>Approximately equivalent to 33.6 gal/hr |

[1] All references to particulate matter throughout this permit mean filterable portion only, unless otherwise specified.

[2] The PSD major significance threshold for $PM_{2.5}$ is 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of $SO_2$ emissions; or 40 tpy of $NO_x$ emissions unless demonstrated not to be a $PM_{2.5}$ precursor under paragraph (b)(50) of 40 CFR 52.21.

[3] While the proposed VOC increase is above the 40 tpy significant modification threshold, LBB is a minor source of VOCs under the NSR program (VOC emissions are less than 50 tpy) and therefore does not trigger NSR for this project.

[4] The hourly fuel rates presented in Table 2 are calculated assuming a heat content of 4,500 Btu/lb for wood at 50% moisture and 140,000 Btu/gal for No.2 and diesel fuel oil.

| Table 2 - Significant Activity Identification | | | |
|---|---|---|---|
| **Emission Unit ID** | **Device** | **Manufacturer, Model, Serial Number** | **Maximum Design Gross Heat Input Capacity and Permitted Fuel Type(s)[4]** |
| EU04 | Fire Pump Engine | Cummings<br>Model # CFP83-F40 or equivalent<br>Serial # TBD | 2.03 MMBtu/hr – Diesel fuel oil<br>Approximately equivalent to 14.5 gal/hr |

## IV. Stack Criteria

The following devices at the Facility shall have exhaust stacks that discharge vertically, without obstruction, and meet the criteria in Table 3 below:

| Table 3 - Stack Criteria | | | | |
|---|---|---|---|---|
| **Stack ID** | **Emission Unit ID** | **Emission Unit Description** | **Minimum Stack Height Above Ground Level (ft)** | **Maximum Inside Stack Diameter (ft)** |
| ST01 | EU01, EU03 | Boiler & Emergency Generator | 320 | 11.25 |
| ST02 | EU02 | Cooling Tower | 38 (each cell) | 30 (each cell) |
| ST03 | EU04 | Fire Pump Engine | 25 | 0.5 |

## V. Pollution Control Equipment/Method Identification

Air pollution control equipment listed in Table 4 shall be operated at all times that the associated devices are operating in order to meet permit conditions.

| Table 4 - Pollution Control Equipment Identification | | | |
|---|---|---|---|
| **Pollution Control Equipment ID** | **Description** | **Purpose** | **Emission Unit Controlled** |
| PCE01 | Dry Electrostatic Precipitator (ESP) | Control of particulate matter emissions | EU01 |
| PCE02 | Selective Catalytic Reduction (SCR) System (cold side) with ammonia injection | Control of $NO_x$ emissions | EU01 |
| PCE03 | Drift Eliminators | Control of particulate matter emissions | EU02 |

## VI. Operating and Emission Limitations

The Owner or Operator shall be subject to the operating and emission limitations identified in Table 5:

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 1 | *Emission Standard for $NO_x$*<br>$NO_x$ emissions shall be limited to:<br>a. 0.065 lb/MMBtu of heat input based on a 30-day rolling average[5];<br>b. 266.5 tons per consecutive 12-month period.<br>The 30-day NOx standard shall apply during normal[6] operation only. The annual NOx standard shall apply at all times, which includes normal operation, startup, shutdown and malfunction. | EU01 | Env-A 618 (LAER)<br><br>*More Stringent than* Env-A 1211.03 |
| 2 | *Emission Standard for PM*[7]<br>PM emissions shall be limited to:<br>a. 0.012 lb PM/MMBtu of heat input;<br>b. 0.012 lb $PM_{10}$/MMBtu of heat input;<br>c. 0.012 lb $PM_{2.5}$/MMBtu of heat input; and<br>d. 52.3 tpy PM;<br>e. 51.2 tpy $PM_{10}$; and<br>f. 51.2 tpy $PM_{2.5}$.<br>The lb/MMBtu PM standards shall apply during normal operation only. The annual PM standards shall apply at all times, which includes normal operation, startup, shutdown and malfunction. | EU01 | Env-A 619 (BACT)<br><br>*More Stringent than* 40 CFR 60.43b(h)(1) 40 CFR 60.43b(g) 40 CFR 63.42(c) & Env-A 2002.08 |
| 3 | *Emission Standards for CO*<br>CO emissions shall be limited to:<br>a. 0.075 lb/MMBtu of heat input based on a calendar day average; and<br>b. 307.4 tpy.<br>The daily CO standard shall apply during normal operation only. The annual CO standard shall apply at all times, which includes normal operation, startup, shutdown and malfunction. | EU01 | Env-A 619 (BACT)<br><br>*More Stringent than* 40 CFR 63 Subpart B (Case-by-Case MACT) |
| 4 | *Emission Standards for $SO_2$*<br>$SO_2$ emissions shall be limited to:<br>a. 0.025 lb/MMBtu of heat input;<br>b. 307.4 tpy.<br>The lb/MMBtu $SO_2$ standard shall apply during normal operation only. The annual $SO_2$ standard shall apply at all times, which includes normal operation, startup, shutdown and malfunction. | EU01 | Env-A 619 (BACT) |
| 5 | *Emission Standard for $H_2SO_4$*<br>$H_2SO_4$ emissions shall be limited to 0.004 lb/MMBtu of heat input.<br>The $H_2SO_4$ standard shall apply during normal operation only. | EU01 | Env-A 619 (BACT) |
| 6 | *Emission Standard for Beryllium*<br>Beryllium emissions shall be limited to 0.0000011 lb/MMBtu of heat input.<br>The Beryllium standard shall apply during normal operation only. | EU01 | Env-A 619 (BACT) |

[5] Compliance with $NO_x$, CO, and ammonia slip emission standards will be determined using CEMS. Compliance with other emission standards (PM, $PM_{10}$, $PM_{2.5}$, $SO_2$, Beryllium, HCL, Mercury, and particulate drift) shall be determined using stack testing.

[6] Normal mode is defined in Table 5 Item 10.

[7] Note that PM emission limits are for filterable PM only and do not include the condensable portion.

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 7 | *Emission Standard for Hydrogen Chloride*<br>HCL emissions shall be limited to 0.000834 lb/MMBtu of heat input.<br>The HCL standard shall apply during normal operation only. | EU01 | 40 CFR 63 Subpart B (Case-by-Case MACT) |
| 8 | *Emission Standard for Mercury*<br>Mercury emissions shall be limited to 0.000003 lb/MMBtu of heat input.<br>The mercury standard shall apply during normal operation only. | EU01 | 40 CFR 63 Subpart B (Case-by-Case MACT) |
| 9 | *Emission Standards for Ammonia Slip*<br>Ammonia slip emissions shall be limited to 10 ppmvd @ 6% oxygen ($O_2$) dry volume.<br>The ammonia slip standard shall apply at all times. | EU01<br>PCE02 | Env-A 1400 |
| 10 | *Operating Mode Limitation*<br>The boiler shall be operated in normal mode, at all times, except during periods of startup or shutdown.<br>Normal mode shall be defined as operating at a heat input capacity of 652 MMBtu/hr or greater (70% of its average maximum heat input capacity of 932 MMBtu/hr). | EU01 | Env-A 618<br>&<br>Env-A 619 |
| 11 | *Emission Standards for Startup & Shutdown*<br>Emissions of $NO_x$ and CO during periods of startup and shutdown shall be limited to the extent practical until specific limits are established and incorporated into this permit pursuant to Table 6 Item 28. | EU01 | Env-A 618<br>&<br>Env-A 619 |
| 12 | *Fuel Oil Annual Capacity Factor*<br>Fuel oil input shall be limited to 5 percent of wood fuel input on a heat content (MMBtu) basis in any consecutive 12-month period. | EU01 | Env-A 4602.42<br><br>*More stringent than* 40 CFR 60.44b(1)(1) |
| 13 | *Fuel Oil Startup Limitation*<br>Fuel oil shall only be burned in the boiler during startup or shutdown. | EU01 | Env-A 619 |
| 14 | *Emission Standard for Particulate Drift*<br>Emissions of PM from the cooling tower shall be limited to 0.0005% by weight of the cooling water flow rate. | EU02 | Env-A 619 |
| 15 | *Maximum Sulfur Content in Emergency Generator and Fire Pump Fuel Oil*<br>The sulfur content of diesel fuel oil burned in the emergency generator and fire pump shall not exceed 0.0015 percent sulfur by weight. | EU03 & EU04 | Env-A 619<br>&<br>40 CFR 60.4207 (NSPS Subpart IIII)<br><br>*More stringent than* Env-A 1604.01(a) |

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 16 | *Standard for Opacity*<br>The opacity from the boiler shall not exceed 10 percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. | EU01 | Env-A 619<br>&<br>40 CFR 63 Subpart B<br>(Case-by-Case MACT)<br><br>*More stringent than*<br>40 CFR 60.43b(f)<br>(NSPS Subpart Db)<br>&<br>Env-A 2002.02 |
| 17 | *Activities Exempt from Visible Emission Standards*<br>No more than one of the following two exemptions shall be taken at a time:<br>a. During periods of startup, shutdown and malfunction, average opacity shall be allowed to be in excess of 20% for one period of 6 continuous minutes in any 60-minute period; or<br>b. During periods of normal operation, soot blowing, grate cleaning, and cleaning of fires, average opacity shall be allowed to be in excess of 20% but not more than 27% for one period of 6 continuous minutes in any 60-minute period. | EU01 | Env-A 2002.04(a) |
| 18 | *Activities Exempt from Visible Emission Standards*<br>Exceedances of the opacity standard in Table 5 Item 16 shall not be considered violations if the Owner or Operator demonstrates to the Division that such exceedances:<br>a. Were the result of the adherence to good boiler operating practices which, in the long term, result in the most efficient or safe operation of the boiler;<br>b. Occurred during periods of cold startup of a boiler over a continuous period of time resulting in efficient heat-up and stabilization of its operation and the expeditious achievement of normal operation of the unit;<br>c. Occurred during periods of continuous soot blowing of the entire boiler tube section over regular time intervals as determined by the operator and in conformance with good boiler operating practice; or<br>d. Were the result of the occurrence of an unplanned incident in which the opacity exceedance was beyond the control of the operator and in response to such incident, the operator took appropriate steps in conformance with good boiler operating practice to eliminate the excess opacity as quickly as possible. | EU01 | Env-A 2002.04(d), (e), and (f) |

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 19 | *Maximum Sulfur Content in Boiler Fuel Oil*<br>The sulfur content of No. 2 fuel oil or diesel burned in the boiler shall not exceed 0.0015 percent sulfur by weight. | EU01 | Env-A 619<br><br>*More stringent than* Env-A 1604.01(a) |
| 20 | *Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970*<br>The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period.[8] | EU03 & EU04 | Env-A 2002.02 |
| 21 | *Activities Exempt from Visible Emission Standards*<br>The average opacity shall be allowed to be in excess of those standards specified in Env-A 2002.02 (Table 5 Item 20) for one period of 6 continuous minutes in any 60 minute period during startup, shutdown, or malfunction. | EU03 & EU04 | Env-A 2002.04(c) |
| 22 | *Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985*<br>The particulate matter emissions from fuel burning devices installed on or after January 1, 1985 shall not exceed 0.30 lb/MMBtu. | EU03, & EU04 | Env-A 2002.08 |
| 23 | *Emergency Generator and Fire Pump Operation*<br>The emergency generator and fire pump shall only operate:<br>a. As a mechanical or electrical power source when the primary power source for the Facility has been lost during an emergency such as a power outage;<br>b. During normal maintenance and testing as recommended by the manufacturer; or<br>c. During periods in which ISO New England (ISO-NE) declares the implementation of Action 12 of ISO-NE Operating Procedure 4, *Action During a Capacity Deficiency*. | EU03 & EU04 | Env-A 101.661 |
| 24 | *Emergency Generators*<br>Emergency generator and fire pump operation shall be limited to:<br>1. 100 hours for maintenance and readiness checks during any consecutive 12-month period; and<br>2. 300 hours total during any consecutive 12-month period. | EU03 & EU04 | Env-A 618<br>Env-A 619<br>40 CFR 60.4211(e) (NSPS Subpart IIII)<br><br>*More stringent than* Env-A 1211.01(j)(1) |
| 25 | *ESP Operation*<br>Operate the ESP in accordance with the ESP Management Plan required in Table 6 Item 21, once it is established. | PCE01 | Env-A 604.01 |
| 26 | *SCR Operation*<br>Operate the SCR in accordance with the SCR Management Plan required in Table 6 Item 25, once it is established. | PCE02 | Env-A 604.01 |

[8] Compliance with visible emission standards for shall be determined using a COMS for EU01 and 40 CFR 60, Appendix A, Method 9, upon request by the Division, for EU03 and EU04.

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 27 | *24-hour and Annual Ambient Air Limit*<br>The emissions of any Regulated Toxic Air Pollutant (RTAP) shall not cause an exceedance of its associated 24-hour or annual Ambient Air Limit (AAL) as set forth in Env-A 1450.01, *Table Containing the List Naming All Regulated Toxic Air Pollutants*. Compliance was demonstrated at the time of permit issuance as described in the Division's _____Determination for application #09-0285. The source must update the compliance demonstration using one of the methods provided in Env-A 1405 if:<br>a. There is a revision to the list of RTAPs lowering the AAL for any RTAP emitted from the Facility;<br>b. The amount of any RTAP emitted is greater than the amount that was evaluated in the Application Review Summary (e.g., use of a cooling water treatment chemical will increase);<br>c. An RTAP that was not evaluated in the Application Review Summary will be emitted (e.g., a new cooling water treatment chemical will be used); or<br>d. Stack conditions (e.g. air flow rate) change. | Facility Wide | Env-A 1400 |
| 28 | *Revisions of the List of RTAPs*<br>In accordance with RSA 125-I:5 IV, if the Division revises the list of RTAPs or their respective AALs or classifications under RSA 125-I:4, II and III, and as a result of such revision the Owner or Operator is required to obtain or modify the permit under the provisions of RSA 125-I or RSA 125-C, the Owner or Operator shall have 90 days following publication of notice of such final revision in the New Hampshire Rulemaking Register to file a complete application for such permit or permit modification. | Facility Wide | RSA 125-I:5 IV |

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 29 | *Relaxation of PSD Opt-Out Requirements*<br>At such time that a particular source or modification becomes a major PSD source or major modification solely by virtue of a relaxation in any enforceable limitation on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of 40 CFR 52.21 (j) through (s) shall apply to the source or modification as though construction had not yet commenced on the source or modification. | Facility-Wide | 40 CFR 52.21(r)(4) |
| 30 | *Accidental Release Program Requirements*<br>The quantities of regulated chemicals[9] stored at the facility are less than the applicable threshold quantities established in 40 CFR 68.130. The facility is subject to the Purpose and General Duty clause of the 1990 Clean Air Act, Section 112(r)(1). General Duty includes the following responsibilities:<br>a. Identify potential hazards which result from such releases using appropriate hazard assessment techniques;<br>b. Design and maintain a safe facility;<br>c. Take steps necessary to prevent releases; and<br>d. Minimize the consequences of accidental releases that do occur. | Facility-Wide | CAAA 112(r)(1) |
| 31 | *General MACT Compliance Requirements*<br>The Owner or Operator shall:<br>a. Comply with the 40 CFR 63 Subpart B Case-by-Case MACT emission limits (including operating limits) and work practice standards at all times, except during periods of startup shutdown or malfunction;<br>b. Always operate and maintain the affected source, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices;<br>c. Demonstrate compliance with 40 CFR 63 Subpart B Case-by-Case MACT as required in Condition VII;<br>d. Not operate the affected source above the applicable maximum operating limit or below the applicable minimum operating limits except during periods of start-up, shut down, or malfunction;<br>e. Operate in accordance with the SSMP required in Table 6, Item 28 during periods of startup, shut down, and malfunction;<br>f. Not be subject to the 40 CFR 63 Subpart B Case-by-Case MACT operating limits during performance tests; and<br>g. Consider any operation above established maximum or below minimum operating limits a deviation of established operating limits; | EU01 | 40 CFR 63 Subpart B (Case-by-Case MACT)<br><br>*More stringent than* 40 CFR 60.11(d) |
| 32 | *Title V Permit Application*<br>Submit an application for a Title V Permit to Operate to the Division within 12 months of commencing operation.[10] | Facility-wide | Env-A 609.07(a)(2), |

[9] LBB will use 19% aqueous ammonia solution in the SCR system. Section 112(r) applies only if the concentration of ammonia is 20% or greater.

[10] Commencing operation shall be same as "initial startup" as defined in the document *Instruction Manual for Clarification of*

| Table 5 - Operating and Emission Limitations | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Applicable Unit** | **Regulatory Basis** |
| 33 | *Acid Rain Permit Application*<br>Submit an application for an Acid Rain Permit to the Division within ___ days of commencing operation. | EU01 | 40 CFR 72, 73, & 77 (Acid Rain) |

## VII. Monitoring and Testing Requirements

The Owner or Operator shall be subject to the monitoring and testing requirements as contained in Table 6:

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |

*Startup in Source Categories Affected by New Source Performance Standards* (EPA-68-01-4143), where "initial startup" is the first time steam is produced by the boiler and used to produce heat or hot water, to run process equipment, or to produce electricity, defined as the first time that the facility transmits electricity onto the grid for sale.

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 1 | To be determined | When conditions warrant, the Division may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Division approved methods. | Upon request by the Division | Facility Wide | RSA 125-C:6, XI |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 2 | Particulate Matter & Opacity | Conduct stack testing for PM, $PM_{10}$, $PM_{2.5}$ and opacity to determine compliance with the PM and opacity emission limits in Table 5 Items 2 and 16.<br>Conduct stack testing for condensable PM to confirm emission rates evaluated during review of application 09-0285. Stack testing shall be performed using the follow methods, or Division approved alternatives:<br>a. Method 3A or 3B shall be used for gas analysis when applying Method 5 or 17.<br>b. Method 5 shall be used to measure the concentration of PM.<br>c. Method 1 shall be used to select the sampling site and the number of traverse sampling points.<br>d. The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Division when necessitated by process variables or other factors.<br>d. For Method 5, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 +/- 14 degrees C (320 +/- 25 degrees F).<br>e. For determination of PM emissions, the oxygen or carbon dioxide sample shall be obtained simultaneously with each run of Method 5 by traversing the duct at the same sampling location.<br>f. For each run using Method 5, the emission rate expressed in ng/J shall be determined using:<br>1. The oxygen or carbon dioxide measurements and PM measurements obtained under this section;<br>2. The dry basis F factor; and<br>3. The dry basis emission rate calculation procedure contained in Method 19.<br>g. Method 201 shall be used to determine filterable particulate matter less than 10 microns in diameter;<br>h. Method 9 shall be used for determining the opacity of stack emissions, unless the COMS is used as described in Table 6 Item 8 and Table 8 Item 3. | Within 60 days after achieving the maximum production rate and not later than 180 days after initial startup[11] | EU01 | 40 CFR 60.46b(d) NSPS Subpart Db & 40 CFR 60.8 Subpart A |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 3 | $SO_2$, $H_2SO_4$, Beryllium, HCl, Mercury, Ammonia Slip & VOCs | Conduct stack testing for $SO_2$, $H_2SO_4$, beryllium, HCl, mercury, and to determine compliance with the emission limitations in Table 5 Items 4 through 9, and VOCs to confirm emission rates evaluated during review of application 09-0285. Stack testing shall be performed using the following methods, or Division approved alternatives:<br>a. Method 6 or 6C for $SO_2$;<br>b. Method __ for $H_2SO_4$;<br>c. Method __ for Beryllium;<br>d. Method 26A for HCl;<br>e. Method __ for Mercury;<br>f. Method __ for ammonia; and<br>g. Method 25 or 25A for VOCs. | Within 60 days after achieving the maximum production rate and not later than 180 days after initial startup | EU01 | RSA 125-C:6, XI & 40 CFR 63 Subpart B (Case-by-Case MACT) |
| 4 | PM | Conduct stack testing for PM to determine compliance with the emission limits in Table 5 Item 14, using the following methods or or Division approved methods:<br>a. Method 3A or 3B shall be used for gas analysis when applying Method 5 or 17.<br>b. Method 5 shall be used to measure the concentration of PM.<br>c. Method 1 shall be used to select the sampling site and the number of traverse sampling points.<br>d. The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Division when necessitated by process variables or other factors.<br>d. For Method 5, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 +/- 14 degrees C (320 +/- 25 degrees F).<br>e. For determination of PM emissions, the oxygen or carbon dioxide sample shall be obtained simultaneously with each run of Method 5 by traversing the duct at the same sampling location; and<br>f. Cooling water flow rate shall be monitored and recorded during the test. | Within 60 days after achieving the maximum production rate and not later than 180 days after initial startup | EU02 | RSA 125-C:6, XI |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 5 | General Stack Testing Requirements | Compliance testing shall be planned and carried out in accordance with the following schedule:<br>a. A pre-test protocol shall be submitted to the Division at least 30 days prior to the commencement of testing The pre-test protocol shall contain the information specified in Env-A 802.04;<br>b. In the event that the Owner or Operator is unable to conduct the performance test on the date specified in the notification provided pursuant to a. above, the Owner or Operator shall notify the Division and USEPA at least 7 days prior to the originally scheduled test;<br>c. The Owner or Operator and any contractor retained by the Owner or Operator to conduct the test shall meet with a Division representative at least 15 days prior to the test date to finalize the details of the testing;<br>d. A test report shall be submitted to the Division within 60 days after the completion of testing. The test report shall contain the information specified in Env-A 802.11(c); and | Initial performance test and subsequent testing | Facility-Wide | Env-A 802<br>40 CFR 60.8<br>&<br>40 CFR 63 Subpart B (Case-by-Case MACT |
| | | d. The Owner or Operator shall be subject to fees for any initial performance testing and monitoring required by this permit for which Division personnel undertake or audit. | Initial performance tests | | Env-A 704.02 |
| 6 | General Stack Testing Requirements | *Operating Conditions During a Stack Test*<br>Compliance testing shall be conducted under one of the following operating conditions:<br>a. Between 90 and 100 percent, inclusive, of maximum production rate or rated capacity;<br>b. A production rate at which maximum emissions occur; or<br>c. At such operating conditions agreed upon during a pre-test meeting conducted pursuant to Env-A 802.05. | Initial performance test and subsequent testing | Facility-Wide | Env-A 802.10<br>40 CFR 60.8<br>&<br>40 CFR 63 Subpart B (Case-by-Case MACT |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 7 | NOx, CO, ammonia and diluent gas CEMS | *NOx, CO, and ammonia Continuous Emission Monitoring System*<br>Install, calibrate, operate, and maintain CEMS for NOx, CO, ammonia slip, and diluent gas (oxygen or carbon dioxide), which shall be used to determine compliance with NOx, CO, and ammonia slip emission limits established in Table 5 Items 1,3, and 9, in accordance with the following:<br>a. Install, calibrate, operate, and maintain each NOx, CO, and ammonia CEMS according to 40 CFR 60 Appendix B, Performance Specification (PS) 4A and the CEMS & COMS Monitoring Plan developed in accordance with Table 6, Item 11;<br>b. Install, calibrate, operate, and maintain each diluent gas CEMS according to 40 CFR 60 Appendix B, PS 3 and the CEMS & COMS Monitoring Plan developed in accordance with Table 6, Item 11;<br>c. Install the sampling probe or other interface of the CEMS at a location such that the measurement is representative of controlled exhaust emissions (e.g. downstream of the last control device);<br>d. Operate the CEMS in accordance witht the SSMP during periods of startup, shutdown, and malfunction;<br>e. Conduct a performance evaluation for each CEMS in accordance with the requirements of 40 CFR 63.8 and 40 CFR 60 Appendix B, PS 4A;<br>f. Each CEMS must complete a minimum of one cycle of operation (sampling, analysis and data recording) for each successive 15-minute period; and<br>g. Reduce the CEMS data in accordance with 40 CFR 63.8(g)(2). | Continuous | EU01<br>PCE02 | 40 CFR 63 Subpart B (Case-by-Case MACT)<br>40 CFR 60.8<br>&<br>Env-A 808 |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 8 | Opacity COMS | *Continuous Opacity Monitoring System*<br>Install, calibrate, maintain, and operate a COMS, which shall be used to demonstrate compliance with the opacity limitation in Table 5 Item 16, in accordance with the following:<br>a. Install, operate, and maintain the COMS according to of 40 CFR 60, Appendix B PS1 and the CEMS & COMS Monitoring Plan developed in accordance with Table 6 Item 11;<br>b. Install the sampling probe or other interface of the COMS at a measurement location such that the measurement is representative of controlled emissions (e.g. downstream of the last control device);<br>c. Operate the COMS in accordance with the SSMP during periods of startup, shutdown, and malfunction;<br>d. Conduct a performance evaluation of each COMS according to the requirements of 40 CFR 63.8 and 40 CFR 60, Appendix B PS1;<br>e. Each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period; and<br>f. Reduce COMS data as specified in 40 CFR 63.8(g)(2). | Continuously | EU01 | 40 CFR 60.48b(a) Appendix B & 40 CFR 63 Subpart B (Case-by-Case MACT) |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 9 | Minimum Specifications for CEMS and COMS | The Owner or Operator shall ensure that each CEMS and COMS meets the following operating requirements:<br>a. Each COMS shall average the opacity data to result in consecutive, non-overlapping 6-minute averages;<br>b. Each CEMS average and record the data for each calendar hour;<br>c. All CEMS and COMS shall include a means to display instantaneous values of percent opacity and gaseous emission concentrations and complete a minimum of one cycle of operation which shall include measurement, analyzing, and data recording for each successive 5-minute period for systems measuring gaseous emissions and each 10-second period for systems measuring opacity, unless a longer time period is approved in accordance with Env-A 809; and<br>d. A valid hour of CEM emissions data means a minimum of 42 minutes of CEMS readings taken in any calendar hour, during which the CEMS is not in an out of control period and the facility is in operation. | N/A | EU01 | Env-A 808.03 |
| 10 | Stack Volumetric Flow | Install, calibrate, and maintain a stack volumetric flow measuring device according to the following requirements:<br>a. All differential pressure flow monitors shall have an automatic blow-back purge system installed, and in wet stack conditions, shall have the capability of drainage of the sensing lines; and<br>b. The stack flow monitoring system shall have the capability for manual calibration of the transducer while the system is on-line and for a zero check. | Continuously | EU01 | Env-A 808.03(d) |
| | | Alternatives to in-stack flow monitoring devices for determination of stack volumetric flow rate may be used if the Owner or Operator provides the Division with technical justification that the alternative can meet the same requirements for data availability, data accuracy, and quality assurance as an in-stack device. | | | Env-A 808.03(e) |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 11 | CEMS & COMS Monitoring Plan | Prepare and submit to the Division a CEMS and COMS Monitoring Plan which includes the following:<br>a. A complete description of the emission monitoring system including, but not limited to:<br>1. The identity of the CEM system vendor, including the company name, address, and telephone number;<br>2. The identity of the manufacturer, model number, measurement method employed, and range of each of the major components or analyzers being used;<br>3. A description of the sample gas conditioning system;<br>4. A description and diagram showing the location of the monitoring system, including sampling probes, sample lines, conditioning system, analyzers, and data acquisition system; and<br>5. A description of the data acquisition system, including sampling frequency, and data averaging methods;<br>b. The mathematical equations used by the data acquisition system, including the value and derivation of any constants, to calculate the emissions in terms of the applicable emission standards;<br>c. An example of the data reporting format;<br>d. A description of the instrument calibration methods, including the frequency of calibration checks and manual calibrations, and path of the sample gas through the system;<br>e. The means used by the data acquisition system of determining and reporting periods of excess emissions, monitor downtime, and out-of-control periods; and<br>f. A description of the means used to provide for short-term and long-term emissions data storage. | Submit[12] to the Division at least 90 days prior to installation of any CEMS | EU01 | Env-A 808.04 |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 12 | CEM Performance Specification Testing | Conduct performance specification testing for a CEM system in accordance with the following:<br>a. The performance specification requirements of 40 CFR 60, Appendix B for each CEMS and COMS;<br>b. For each COMS, the calibration error test specified in 40 CFR 60, Appendix B, Performance Specification 1, paragraph 7.1.4, shall be performed with the monitor installed on the stack or duct that is to be the permanent location for the monitor;<br>c. All performance specification testing shall be conducted within 180 days of the CEMS or COMS initial startup;<br>d. The Division shall be notified of the date or dates of the performance specification testing at least 30 days prior to the scheduled dates; and<br>e. A written report summarizing the results of the testing shall be submitted to the Division within 30 days of the completion of the test. | As specified | EU01 | Env-A 808.05 |
| 13 | CEMS & COMS QA/QC Plan | Prepare and maintain a Quality Assurance/Quality Control (QA/QC) plan which covers each CEMS and COMS at the facility in accordance with the following:<br>a. Review the QA/QC plan and all data generated by its implementation at least once each year;<br>b. Revise or update the QA/QC plan, as necessary, based on the results of the annual review, by:<br>1. Documenting any changes made to the CEM or changes to any information provided in the monitoring plan;<br>2. Including a schedule of, and describing, all maintenance activities that are required by the CEM manufacturer or that might have an effect on the operation of the system;<br>3. Describing how the audits and testing required by Env-A 808 will be performed; and<br>4. Including examples of the reports that will be used to document the audits and tests required by Env-A 808. | Submit to the Division within 30 days of completion of the CEMS/COMS Performance Specification testing required in Table 6 Item 12 | EU01 | Env-A 808.06 |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 14 | General Audit Requirements for all CEM Systems | Audit each CEMS in accordance with the following:<br>a. Required quarterly CEMS audits shall be performed anytime during each calendar quarter, but successive quarterly audits shall occur no more than 4 months apart;<br>b. Notify the Division at least 30 days prior to the performance of a Relative Accuracy Test Audit (RATA);<br>c. Provide at least 2 weeks' notice prior to any other planned audit or test procedure;<br>d. Submit to the Division a written summary report of the results of all required audits that were performed in that quarter within 30 calendar days following the end of each quarter, in accordance with the following:<br>1. For gaseous CEMS audits, the report format shall conform to that presented in 40 CFR 60, Appendix F, Procedure 1, section 7; and<br>2. For COMS audits, the report format shall conform to that presented in EPA-600/8-87-025, April 1992, "Technical Assistance Document: Performance Audit Procedures for Opacity Monitors". | Quarterly | EU01 | Env-A 808.07 |
| 15 | CEMS Audit Requirements | Perform audits for CEMS in accordance with procedures described in 40 CFR 60, Appendix F and Env-A 808.08. | Quarterly | EU01 | Env-A 808.08 |
| 16 | COMS Audit Requirements | Perform audits for COMS in accordance with procedures described in Env-A 808.09 and 40 CFR 60, Appendix B, Specification 1. | Quarterly | EU01 | Env-A 808.09 |
| 17 | CEMS & COMS Data Availability Requirements | a. Each CEMS shall operate at all times during the operation of the source, except for periods of CEMS breakdown, repairs, calibration checks, preventive maintenance, and zero/span adjustments;<br>b. The percentage CEMS and COMS data availability shall be maintained at a minimum of 90% on a calendar quarter basis; and<br>c. The percentage CEMS and COMS data availability shall be maintained at a minimum of 75% for any calendar month. | N/A | EU01 | Env-A 808.10 |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 18 | Data Availability Calculations | The Owner or Operator shall use the following equation for calculating percentage data availability:<br><br>*Percentage Data Availability* = $\frac{(VH + CalDT) \times 100}{(OH - AH)}$<br><br>Where:<br><br>VH = Number of valid hours of CEM data in a given time period for which the data availability is being calculated when the plant is in operation;<br><br>CalDT = Number of hours, not to exceed one hour per day, during facility operation when the CEM is not operating due to the performance of the daily CEM calibrations as required in 40 CFR 60, Appendix F;<br><br>OH = Number of facility operating hours during a given time period for which the data availability is being calculated; and<br><br>AH = Number of hours during facility operation when the performance of quarterly audits as required by those procedures specified in Env A 808.08 or Env-A 808.09, as applicable, require that the CEM be taken out of service in order to conduct the audit. | As specified | EU01 | Env-A 808.10 |
| 19 | ESP Operating Parameters | Monitor and record the following ESP operating parameters:<br>a. secondary voltage;<br>b. pressure differential across the ESP; and<br>c. number of ESP fields in service. | Monitor continuously, record daily | PCE01 | RSA 125-C:6, XI |
| | | If the pressure drop or secondary voltage is outside of the operating range specified in ESP Management Plan required pursuant to Table 6 Item 21.c then inspect the unit and take necessary corrective actions to improve the performance of the unit. | As noted | | |
| | | Inspect pressure sensing lines and gauge | Annually | | |
| | | Calibrate pressure sensing gauge. | In accordance with manufacturers specifications | | |
| 20 | ESP Inspection | | | PCE01 | RSA 125-C:6, |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| | & Maintenance | Conduct an external inspection of the ESP which includes:<br>a. Visual inspection of ESP shell, piping, and ducts for leaks;<br>b. Verifing proper operation of ash removal auger, hopper vibrator (if present), and rappers;<br>c. Checking high level probes, remote alarms, etc; and<br>d. Checking for abnormal noise, hot spots, etc. | Daily | | XI |
| | | Conduct internal inspection and maintenance of the ESP which includes, but is not limited to, the following:<br>a. Checking insulators and electrodes;<br>b. Checking for shorting;<br>c. Straightening warped plates or rods; and<br>d. Maintaining rappers. | During outage (~ annually) | | |
| 21 | ESP Management Plan | Develop and submit to the Division for review and approval an ESP Management Plan which contains the following elements, at a minimum:<br>a. Schedule of planned maintenance;<br>b. Detailed parametric monitoring plans which include, at a minimum:<br>1. Pressure drop;<br>2. Secondary voltage;<br>3. Number of fields in service; and<br>c. Parametric operating ranges indicative of proper operation of the ESP. | Within 60 days of Division approval of initial compliance demonstration test results | PCE01 | RSA 125-C:6, XI |
| 22 | SCR Operating Parameters | Monitor and record the following SCR operating parameters:<br>a. catalyst bed temperature; and<br>b. pressure differential across the SCR. | Monitor continuously, record daily | PCE02 | RSA 125-C:6, XI |
| | | If the temperature or pressure differential is outside of the operating range specified in the SCR Management Plan required pursuant to Table 6 Item 25.c then inspect the unit and take necessary corrective actions to improve the performance of the unit. | As noted | | |
| | | Inspect temperature and pressure sensing lines and gauge | Annually | | |
| | | Calibrate pressure sensing gauge. | In accordance with manufacturers specifications | | |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 23 | Ammonia Consumption | Monitored ammonia flow to the SCR using Division approved ammonia flow meter. Ammonia usage shall be calculated and recorded daily. The ammonia flow meter shall be calibrated in accordance with the manufacturer's specifications at least once, annually | Continuous & daily calculations | PCE02 | RSA 125-C:6, XI |
| 24 | Ammonia Flow/NOx Emission Rate Comparison | For the purpose of evaluating PCE performance, compare ammonia flow and NOx emissions in accordance with the following:<br>a. Calculate the average daily ammonia flow rate in lb/hr based on the ammonia flow meter; and<br>b. Calculate the ratio of the average daily ammonia flow rate in lb/hr/average daily $NO_x$ emission rate in lb/hr (based on the $NO_x$ CEM data). | Daily | PCE02 | RSA 125-C:6, XI |
| 25 | SCR Management Plan | Develop and submit to the Division for review and approval an SCR Management Plan which contains the following elements, at a minimum:<br>a. Schedule of planned maintenance;<br>b. Detailed parametric monitoring plans which include, at a minimum:<br>1. Ammonia flow;<br>2. Pressure drop; and<br>3. catalyst bed temperature; and<br>c. Parametric operating ranges indicative of proper operation of the SCR. | Within 60 days of Division approval of initial compliance demonstration test results | PCE02 | RSA 125-C:6, XI |
| 26 | Catalyst Management Plan | Develop and submit to the Division for review and approval a catalyst management plan for the SCR system which contains the following elements, at a minimum:<br>a. Schedule of planned maintenance;<br>b. Expected minimum catalyst life; and<br>c. Detailed monitoring plans, i.e. pressure drop, ammonia flow, ammonia to fuel flow ratios, temperatures, etc. | Within 60 days after achieving the maximum production rate and not later than 180 days after initial startup | PCE02 | RSA 125-C:6, XI |
| 27 | Cooling Water Flow Rate | Monitor and record the cooling water flow rate to the cooling towers, in gal/day. | Daily | PCE03 | RSA 125-C:6, XI |

| Table 6 - Monitoring and Testing Requirements | | | | | |
|---|---|---|---|---|---|
| **Item #** | **Parameter** | **Method of Compliance** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 28 | Startup/ Shutdown Malfunction Plan | Develop and submit to the Division for review and approval a Startup/Shutdown Malfunction Plan which contains the following elements, at a minimum:<br>a. Procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction;<br>b. A program of corrective actions for malfunctioning processes, air pollution control equipment, and monitoring equipment; and<br>b. $NO_x$ and CO emission limitations for Startup and Shutdown | Within 60 days after achieving the maximum production rate and not later than 180 days after initial startup | EU01 | Env-A 618<br>Env-A 619<br>&<br>40 CFR 63 Subpart B (Case-by-Case MACT |
| 29 | Hours of Operation | The emergency generator shall be equipped with a non-resettable hour meter. | Continuous | EU02 & EU03 | 40 CFR 60.4209(a) (Subpart IIII) |
| 30 | Sulfur Content of Liquid Fuels | Conduct testing in accordance with appropriate ASTM test methods or retain delivery tickets in accordance with Table 7, Item 8 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels. | For each delivery of fuel oil/diesel to the facility | Facility Wide | Env-A 806.02 & Env-A 806.05 |

## VIII. Recordkeeping Requirements

The Owner or Operator shall be subject to the recordkeeping requirements identified in Table 7:

| Table 7 - Recordkeeping Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Duration/ Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 1 | *Record Retention and Availability*<br>Maintain all records required by this permit on file. These records shall be available for review by the Division upon request. | Retain for a minimum of 5 years | Facility Wide | 40 CFR 60.7 (f), 40 CFR 60.49b(o), Env-A 902.01(a) & Env-A 903.04 |
| 2 | *NSPS Startup, Shutdown, Malfunction Records*<br>Maintain records of the occurrence and duration of any:<br>a. startup, shutdown, or malfunction in the operation of the affected facility;<br>b. any malfunction of the air pollution control equipment; and<br>c. any periods during which a continuous monitoring system or monitoring device is inoperative. | Each occurrence | EU01 | 40 CFR 60.7 (b) |

| Table 7 - Recordkeeping Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Duration/ Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 3 | *General Recordkeeping Requirements for Combustion Devices*<br>Maintain the following records of fuel characteristics and utilization for the fuel used in the each combustion device:<br>a. Type (e.g. wood chips, No. 2 fuel oil) and amount of fuel burned; and<br>b. Hours of operation. | Monthly, & 12-month rolling | EU01, | Env-A 903.03 |
| 4 | *Fuel Oil Annual Capacity Factor*<br>The annual capacity factor individually for fuel oil and wood. | Monthly & 12-month rolling | EU01 | 40 CFR 60.49b(d) |
| 5 | *Opacity NSPS Subpart Db Recordkeeping Requirement*<br>Maintain records of opacity | Continuously | EU01 | 40 CFR 60.49b(f) |
| 6 | *Emergency Generator & Fire Pump*<br>Maintain the following records of fuel characteristics and utilization for the fuel used in the each combustion device:<br>a. Type (e.g. diesel fuel oil) and amount of fuel burned; and<br>b. Hours of operation for maintenance & readiness testing; and<br>c. Hours of operation for emergency use. | Monthly | EU02 & EU03 | Env-A 903.03 & 40 CFR 60.4211(e) NSPS Supbart IIII |
| 7 | *NSPS Recordkeeping Requirements for Internal Combustion Engines*<br>Maintain documentation from the engine manufacturer certifying that the engine complies with the applicable emissions standards stated in 40 CFR 60 Subpart IIII. | Maintain Up-to-Date Data | EU02 & EU03 | 40 CFR 60.4211 (Subpart IIII) |
| 8 | *Liquid Fuel Oil Recordkeeping Requirements*<br>Maintain fuel delivery tickets that contain the following information:<br>a. The date of delivery;<br>b. The quantity of delivery; | For each delivery of fuel oil to the facility | EU01, EU02, EU03 | Env-A 806.05 |
| | c. The name, address and telephone number of the company making the delivery; and<br>d. The maximum weight percentage of sulfur or a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed standards listed in this permit for that fuel | Whenever there is a change in fuel supplier but at least annually | | |

| Table 7 - Recordkeeping Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Duration/ Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 9 | *VOC Emission Statements Recordkeeping Requirements*<br>If the actual annual VOC emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then maintain records of the following information:<br>a. Identification of each VOC-emitting process or device;<br>b. The operating schedule during the high ozone season (June 1 through August 31) for each VOC-emitting process or device identified in a. above, including:<br>1. Typical hours of operation per day; and<br>2. Typical days of operation per calendar month.<br>c. The following VOC emission data from all VOC-emitting processes or devices identified in Table 7, Item 9.a above, including:<br>1. Actual VOC emissions for:<br>2. The calendar year, in tons; and<br>3. A typical high ozone season day during that calendar year, in pounds per day; and<br>d. The emission factors and the origin of the emission factors used to calculate the VOC emissions. | Maintain Up-to-Date Data | Facility Wide | Env-A 904.02 |
| 10 | *General NOx Recordkeeping Requirements*<br>Maintain records of the following information:<br>a. Identification of each fuel burning device;<br>b. Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in Table 7, Item 10.a, above, including:<br>1. Typical hours of operation per day;<br>2. Typical days of operation per calendar month;<br>3. Number of weeks of operation;<br>4. Type and amount of each fuel burned;<br>5. Heat input rate in MMBtu/hr;<br>6. Actual NOx emissions for the calendar year and a typical high ozone day during that calendar year; and<br>7. Emission factors and the origin of the emission factors used to calculate the NOx emissions. | Maintain Up-to-Date Data | EU01, EU02, EU03 | Env-A 905.02 |

| Table 7 - Recordkeeping Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Duration/ Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 11 | *Recordkeeping Requirements for Add-On NOx Control Equipment*<br>Maintain records of the following information:<br>a. Air pollution control device identification number, type, model number, and manufacturer;<br>b. Installation date;<br>c. Unit(s) controlled;<br>d. Type and location of the capture system, capture efficiency percent, and method of determination;<br>e. Information as to whether the air pollution control device is always in operation when the fuel burning device it is serving is in operation;<br>f. Destruction or removal efficiency of the air pollution control equipment, including the following information:<br>1. Destruction or removal efficiency, in percent;<br>2. Date tested;<br>3. Emission test results; and<br>g. Method of determining destruction or removal efficiency, if not tested. | Maintain Up-to-Date Data | PCE02 | Env-A 905.03 |
| 12 | *ESP Recordkeeping Requirements*<br>Maintain records of the monitoring data for the ESP required in Table 6 Item 19, including:<br>a. Average daily pressure differential in inches of water;<br>b. Average daily secondary voltage; and<br>c. Average daily temperatures of the SCR catalyst beds. | Daily | PCE01 | Env-A 906 |
| 13 | *SCR Recordkeeping Requirements*<br>Maintain records of the monitoring data for the SCR required in Table 6 Items 22 and 24, including:<br>a. Daily ammonia usage in lb/hr;<br>b. Daily calculated ratio of the average daily ammonia flow (lb/hr) to average daily NOx emissions (lb/hr); and<br>c. Average daily temperatures of the SCR catalyst beds. | Daily | PCE02 | Env-A 906 |
| 14 | *Drift Eliminator Recordkeeping Requirements*<br>Maintain records of the monitoring data for the Drift Eliminator required in Table 6 Item 27, including:<br>a. Average monthly circulating water flow in gal/hr. | Monthly | PCE03 | Env-A 906 |
| 15 | *Air Pollution Control Device Operational Records*<br>Maintain records of all malfunctions, routine maintenance, and other downtimes of any air pollution control equipment in whole or part. | At each occurrence | PCE01, PCE02 & PCE03 | Env-A 906 |

| Table 7 - Recordkeeping Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Duration/ Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 16 | *Pollution Control Equipment Inspection & Maintenance*<br>Maintain records of all air pollution control equipment inspection and maintenance activities required in Table 6 Items 20 and 25, including:<br>a. daily external inspections;<br>b. annual internal inspections;<br>c. Air pollution control equipment maintenance activities; and<br>d. Corrective actions. | As specified in Table 6 Items 22 & 25. | PCE01 PCE02, PCE03 | Env-A 906 |
| 17 | *Pollution Control Equipment Management Plans*<br>Maintain the ESP and SCR Management Plans required in Table 6 Items 21 and 25, including all data required to be recorded in accordance with the plans. | Maintain Up-to-Date Data | PCE01 PCE02 | Env-A 906 |
| 18 | *Startup/Shutdown Malfunction Plan*<br>Maintain the Startup/Shutdown Malfunction Plan required in Table 6 Item 28, including all data required to be recorded in accordance with the plan. | Maintain Up-to-Date Data | PCE01 PCE02 | Env-A 906 |
| 19 | *CEMS & COMS Monitoring and QA/QC Plan*<br>Maintain the CEMS & COMS Monitoring and QA/QC Plan as required in Table 6 Items 11 and 13, including all data required to be recorded in accordance with the plan. | Maintain Up-to-Date Data | Facility Wide | Env-A 808 |
| 20 | *Regulated Toxic Air Pollutants*<br>Maintain records documenting compliance with Env-A 1400. | Maintain Up-to-Date Data | Facility Wide | Env-A 902.01 |
| 21 | *Permit Deviation Reporting Requirements*<br>Record permit deviations in accordance with Condition XVI. | As noted in Condition XVI | Facility Wide | Env-A 911.03 |

## IX. Reporting Requirements

The Owner or Operator shall be subject to the reporting requirements identified in Table 8 below. All emissions data submitted to the Division shall be available to the public. Claims of confidentiality for any other information required to be submitted to the Division pursuant to this permit shall be made at the time of submission in accordance with Env-A 103, *Claims of Confidentiality*.

| Table 8 - Reporting Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 1 | *Annual Emissions Report*<br>Submit an annual emissions report which shall include the following information:<br>a. Actual calendar year emissions from each emission unit of $NO_x$, CO, $SO_2$, TSP, PM10, and VOCs, HAPs (speciated by individual HAP), and RTAPs (speciated by individual RTAP);<br>b. The methods used in calculating such emissions in accordance with Env-A 705.02, *Determination of Actual Emissions for Use in Calculating Emission-Based Fees*; and<br>c. All information recorded in accordance with Table 7 Items 3 and 6. | Annually (received by the Division no later than April 15th of the following year) | EU01 EU02, EU03 | Env-A 907.01 |
| 2 | *NSPS Notification Requirements*<br>Submit notification of the initial startup, which shall include:<br>a. The date construction is commenced, postmarked no later than 30 days after such date;<br>b. The actual date of initial startup postmarked within 15 days of such date, which shall also include the following information:<br>1. The design heat input capacity of the boiler;<br>2. Identification of fuels to be combusted in the boiler;<br>3. A copy of the federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels; and<br>4. The annual capacity factor at which the Owner or Operator anticipates operating the facility based on all fuels combined and each individual fuel.<br>c. Notification of the date upon which demonstration of the continuous monitoring systems performance commences in accordance with 40 CFR 60.13(c), postmarked not less than 30 days prior to such date. | As specified | EU01 | 40 CFR 60.7(a) & 40 CFR 60.49b(a) & 40 CFR 63 Subpart B (Case-by-Case MACT |
| 3 | *Opacity Compliance Determination During Performance Tests*<br>If applicable, submit a notification that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required by 40 CFR 60.8 instead of Method 9 observation data for the Boiler. | Postmarked not less than 30 days prior to the date of the performance test | EU01 | 40 CFR 60.11(e)(5) |

| Table 8 - Reporting Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 4 | *VOC Emission Statements Reporting Requirements*<br>If the actual annual VOC emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report:<br>a. Facility information, including:<br>1. Source name;<br>2. Standard Industrial Classification (SIC) code;<br>3. North American Industrial Classification System (NAICS) code;<br>4. Physical and mailing addresses; and<br>b. A breakdown of VOC emissions reported pursuant to Table 8 Item 1 by month; and<br>c. All data recorded pursuant to Table 7 Item 9. | Annually (received by the Division no later than April 15th of the following year) | EU01, EU02, EU03 | Env-A 908.03 |
| 5 | *NOx Emission Statements Reporting Requirements*<br>If the actual annual NOx emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report:<br>a. A breakdown of $NO_x$ emissions reported pursuant to Table 8 Item 1 by month; and<br>b. All data recorded in accordance with Table 7 Item 10. | Annually (received by the Division no later than April 15th of the following year) | EU01, EU02, EU03 | Env-A 909.03 |
| 6 | *NSPS Performance Test Results for PM*<br>The Owner or Operator shall submit the PM emissions test data from the initial performance test and from the performance evaluation of the COMS using the applicable performance specifications in 40 CFR 60 Appendix B to EPA and the Division. | Within 60 days of completing the performance tests | EU01 | 40 CFR 60.49b(b) & 40 CFR 60.8(a) |
| 7 | *NSPS Semi-annual Excess Emissions Reports for Opacity*<br>Submit excess emissions reports for any excess emissions that occurred during the reporting period.<br>For the purpose of 40 CFR 60.43b, excess emissions are defined as all 6-minute periods during which the average opacity exceeds the NSPS standard of 20%. | Postmarked within 30 days of the end of the 6-month reporting period | EU01 | 40 CFR 60.49b(h) & (w) |

| Table 8 - Reporting Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 8 | *Quarterly Emission Reports*<br>The Owner or Operator shall submit to the Division quarterly reports containing the following information:<br>a. The information specified in 40 CFR 60.7(c);<br>b. Excess emission data recorded by the CEM system, including the following:<br>1. The date and time of the beginning and ending of each of excess emissions;<br>2. The magnitude of each excess emission;<br>3. The specific cause of the excess emission; and<br>4. The corrective action taken;<br>c. If no excess emissions have occurred, a statement to that effect;<br>d. For gaseous emission monitoring systems, the daily averages of the measurements made and emissions rates calculated.<br>e. A statement as to whether the CEM system was inoperative, repaired, or adjusted during the reporting period;<br>f. If the CEM system was inoperative, repaired, or adjusted during the reporting period, the following information:<br>1. The date and time of the beginning and ending of each period when the CEM was inoperative;<br>2. The reason why the CEM was not operating;<br>3. The corrective action taken; and<br>4. The percent data availability calculated in accordance with Env-A 808.10 for each flow, diluent, or pollutant analyzer in the CEM system;<br>g. For all "out of control periods" as defined in Env-A 808.01(g) and 40 CFR 60, Appendix F, the following information:<br>1. The times beginning and ending the out of control period;<br>2. The reason for the out of control period; and<br>3. The corrective action taken;<br>h. The date and time beginning and ending each period when the source of emissions which the CEM system is monitoring was not operating;<br>i. When calibration gas is used, the following information: calibration gas concentration;<br>1. If a gas bottle was changed during the quarter:<br>2. The date of the calibration gas bottle change;<br>i. The gas bottle concentration before the change;<br>ii. The gas bottle concentration after the change; and<br>3. The expiration date for all calibration gas bottles used. | Within 30 calendar days after the end of the calendar quarter | EU01 | Env-A 808.11, Env-A 808.12 |

| Table 8 - Reporting Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 9 | *Option to Use Electronic Reporting for NSPS Subpart Db*<br>The Owner or Operator of an affected facility may submit electronic quarterly reports for opacity in lieu of submitting the written reports required under 40 CFR 60.49b(h) (i.e., Item 4 above). The format of each quarterly electronic report shall be coordinated with the Division. The electronic report(s) shall be accompanied by a certification statement from the Owner or Operator, indicating whether compliance with the applicable emission standards and minimum data requirements specified in this permit was achieved during the reporting period. | Within 30 days of the end of the calendar quarter | EU01 | 40 CFR 60.49b(v) |
| 10 | *SCR System Quarterly Report*<br>Include the following information for the SCR system in the quarterly report required under Item 8 above:<br>a. Average daily ammonia flow in lb/hr;<br>b. Daily calculated ratio of average daily ammonia flow (lb/hr) to average daily NOx emissions (lb/hr); and<br>c. Average daily temperature of the SCR catalyst bed. | Within 30 days of the end of the calendar quarter | EU01/PCE 02 | Env-A 910 |
| 11 | *Annual Compliance Certification*<br>Submit an annual compliance certification to the Division and USEPA which includes the following information for each and every requirement and condition of the facilities effective permit(s):<br>a. The particular permit condition or item number that references each requirement, and a brief summary of the requirement;<br>b. The compliance status with respect to the requirement and whether during the year compliance with the requirement was continuous, intermittent, not achieved, or not applicable;<br>c. The method(s) used to determine compliance, such as monitoring, record keeping, or test methods;<br>d. The frequency, either continuous or intermittent, of the method(s) used to determine compliance;<br>e. If compliance was not continuous, a description of each permit deviation; and<br>f. Any additional information required in order for the Division to determine the compliance status of the source. | No later than April 15 of the year following the calendar year covered by the report | Facility wide | Env-A 907.04(a) |

| Table 8 - Reporting Requirements | | | | |
|---|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Applicable Unit** | **Regulatory Basis** |
| 12 | *Semi-annual Permit Deviation and Monitoring Report*<br>Submit a semi-annual permit deviation and monitoring report, which contains:<br>a. Summaries of the pertinent data that demonstrate the source's compliance status with all monitoring and testing requirements contained in this permit:<br>b. Evidence that the required data is being recorded and maintained; and<br>c. A summary of all permit deviations recorded pursuant to Section XVI of this Permit that occurred during the reporting period. | Semi-annually by July 31st and January 31st of each calendar year. | EU01 & EU02 | Env-A 907.04(b) & Env-A 911.05 |
| 13 | *CEMS & COMS Monitoring and QA/QC Plan Updates*<br>Submit either a:<br>a. Written certification that the Owner or Operator will continue to implement the sources existing QA/QC plan; or<br>b. Written description of any changes to the plan, including the reason for the changes. | Annually | EU01 | Env-A 808.06(a)(6) |
| 14 | *Permit Deviation Reporting Requirements*<br>Report permit deviations in accordance with Condition XVI. | As noted in Condition XVI | Facility Wide | Env-A 911.04 |
| 15 | *Emission Based Fees*<br>Pay emission-based fees in accordance with Condition XIX. | Annually (received by the Division no later than April 15th of the following year) | EU01, EU02, EU03 | Env-A 700 |

**General Temporary/NSR/PSD Permit Conditions**

## X. Temporary Permit Reissuance Procedures

Pursuant to Env-A 607.02(b), for the reissuance of a temporary permit, an application shall be considered timely if it is received by the Division at least 90 days prior to the designated expiration date of the temporary permit.

## XI. Timely Application

Pursuant to Env-A 609.07(a)(2), for an initial Title V Operating Permit, an application shall be considered timely if it is received at the Division within 12 months of commencing operation.

## XII. Permit Expiration

Pursuant to Env-A 607.08(c), the expiration of a temporary permit shall terminate the Owner or Operator's right to construct or operate a new or modified source or device pursuant to the permit, unless a timely and complete application for a state permit to operate, title V operating permit, or an amendment thereto, has been received by the Division. Upon the submittal of a timely and complete application for any of the foregoing permits, the right to construct shall continue, under

the terms and conditions of the expired temporary permit, pending the Division's decision on the application.

## XIII. Application Shield

A. Pursuant to Env-A 607.10(a), if an applicant submits a timely application that has been deemed complete by the Division for the reissuance of a temporary permit or the issuance of an initial state permit to operate, the failure to have a current and valid temporary permit shall not be considered a violation of RSA 125-C:11,I or Env-A 607.01 unless and until the Division takes final action on the application by denying the requested reissuance of a temporary permit or issuance of a state permit to operate.

B. Pursuant to Env-A 607.10(b), if the Division deems an application complete, but requests additional information pursuant to Env-A 607.06(b), the protection granted in Env-A 607.10(a) shall cease to apply when the applicant fails to submit in writing such additional requested information by the deadline specified in the request.

## XIV. Permit Amendments

A. Env-A 612.01, *Administrative Permit Amendments*:

1. An administrative permit amendment includes the following:
   a. Corrects typographical errors;
   b. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
   c. Requires more frequent monitoring or reporting; or
   d. Allows for a change in ownership or operational control of a source provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee has been submitted to the Division.
2. The Owner or Operator may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

B. Env-A 612.03, *Minor Permit Amendments: Temporary Permits and State Permits to Operate*:

1. The Owner or Operator shall submit to the Division a request for a minor permit amendment for any proposed change to any of the conditions contained in this permit which will not result in an increase in the amount of a specific air pollutant currently emitted by the emission units listed in Condition III and will not result in the emission of any air pollutant not emitted by the emission unit.
2. The request for a minor permit amendment shall be in the form of a letter to the Division and shall include the following:
   a. A description of the proposed change; and
   b. A description of any new applicable requirements that will apply if the change occurs.
3. The Owner or Operator may implement the proposed change immediately upon filing a request for the minor permit amendment.

C. Env-A 612.04, *Significant Permit Amendments: Temporary Permits and State Permits to Operate*:

1. The Owner or Operator shall submit a written request for a permit amendment to the Division at least 90 days prior to the implementation of any proposed change to the physical structure or operation of the emission units covered by this permit which increases the amount of a specific air pollutant currently emitted by such emission unit or which results in the emission of any regulated air pollutant currently not emitted by such emission unit.
2. A request for a significant permit amendment shall include the following:
   a. A complete application form, as described in Env-A 1703 through Env-A 1708, as applicable;
   b. A description of:
      i. The proposed change;
      ii. The emissions resulting from the change; and
      iii. Any new applicable requirements that will apply if the change occurs; and
      iv. Where air pollution dispersion modeling is required for a device pursuant to Env-A 606.02, the information required pursuant to Env-A 606.03.
3. The Owner or Operator shall not implement the proposed change until the Division issues the amended permit.

## XV. Temporary/NSR/PSD Permit Suspension, Revocation or Nullification

A. Pursuant to RSA 125-C:13, the NHDES Commissioner may suspend or revoke any final permit issued hereunder if, following a hearing, the Commissioner determines that:

1. The Owner or Operator has committed a violation of any applicable statute or state requirement found in the New Hampshire Rules Governing the Control of Air Pollution, order or permit condition in force and applicable to it; or
2. The emissions from any device to which this Permit applies, alone or in conjunction with other sources of the same pollutants, presents an immediate danger to the public health.

B. The Commissioner shall nullify any Permit if, following a hearing in accordance with RSA 541-A:30, II, a finding is made that the Permit was issued in whole or in part based upon any information proven to be intentionally false or misleading.

## XVI. Permit Deviation Recordkeeping and Reporting Requirements

A. The Owner or Operator shall be subject to the permit deviation recordkeeping and reporting requirements in Table 9 below, where permit deviation and excess emission are defined as follows:

Env-A 101*, Definitions*:

1. A *permit deviation* is any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in either a Title V permit, state permit to operate, temporary permit or general state permit issued by the Division.
2. An *excess emission* is an air emission rate that exceeds any applicable emission limitation.

| Table 9 - Permit Deviation Recordkeeping and Reporting Requirements | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Regulatory Basis** |
| 1 | *Permit Deviation Recordkeeping*<br>In the event of a permit deviation, the Owner or Operator shall:<br>a.. Investigate and take corrective action immediately upon discovery of the permit deviation to restore the affected device, process, or air pollution control equipment to within allowable permit levels; and<br>b. Record the following information:<br>1. The permit deviation;<br>2. The probable cause of the permit deviation;<br>3. The date of the occurrence;<br>4. The duration;<br>5. The specific device that contributed to the permit deviation; and<br>6. Any corrective or preventative measures taken. | Each permit deviation | Env-A 911.03 |
| 2 | *Permit Deviation Reporting – No Excess Emissions*<br>If the permit deviation does not cause excess emissions, but continues for a period greater than nine consecutive days, notify the Division by e-mail (pdeviations@des.nh.gov), telephone (603-271-1370) or fax (603-271-1381), of the subsequent corrective actions to be taken. | On the tenth day of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the Division shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday | Env-A 911.04 |

| Table 9 - Permit Deviation Recordkeeping and Reporting Requirements | | | |
|---|---|---|---|
| **Item #** | **Requirement** | **Frequency** | **Regulatory Basis** |
| 3 | *Permit Deviation Reporting – Excess Emissions*<br>In the event of a permit deviation that causes excess emissions:<br>a. Notify the Division of the permit deviation and excess emissions by e-mail, telephone or fax,; and<br>b. Submit a written report to the Division reported in Item a, above. The written report shall include the following information:<br>1. Facility name;<br>2. Facility address;<br>3. Name of the responsible official employed at the facility;<br>4. Facility telephone number;<br>5. Date(s) of the occurrence;<br>6. Time of the occurrence;<br>7. Description of the permit deviation;<br>8. The probable cause of the permit deviation;<br>9. Corrective action taken to date;<br>10. Preventative measures taken to prevent future occurrences; and<br>11. Date and time that the device, process, or air pollution control equipment returned to operation in compliance with an enforceable emission limitation, or operating condition;<br>12. The specific device, process or air pollution control equipment that contributed to the permit deviation;<br>13. The type and quantity of excess emissions emitted to the atmosphere due to the permit deviation; and<br>14. The calculation or estimation used to quantify the excess emissions. | *Notification*:<br>Within twenty-four (24) hours of discovery of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the Division shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday<br><br>*Written Report:*<br>Within ten (10) days of discovery of the permit deviation | Env-A 911.04 |
| 4 | *Data Availability Permit Deviations*<br>In the event of a permit deviation caused by a failure to comply with the data availability requirements of Env-A 800:<br>a. Notify the Division of the permit deviation by e-mail, telephone or fax,; and<br>b. Report the permit deviation to the Division, as part of the emissions report required pursuant to Table 8 Item 8. | *Notification*:<br>Within 10 days of discovery of the permit deviation<br><br>*Written Report:*<br>See Table 8 Item 8 | Env-A 911.04(c) |

## XVII. Inspection and Entry

EPA and Division personnel shall be granted access to the facility covered by this Permit, in accordance with RSA 125-C:6,VII, for the purposes of: inspecting the proposed or permitted site; investigating a complaint; and assuring compliance with any applicable requirement or state requirement found in the NH Rules Governing the Control of Air Pollution and/or conditions of any permit issued pursuant to Env-A 600.

## XVIII. Reports

All reports submitted to the Division (except those submitted as emission-based fees as outlined in Section XIV of this Permit) shall be submitted to the following address:

New Hampshire Department of Environmental Services
Air Resources Division
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095
ATTN: Administrator, Compliance Bureau

All reports submitted to USEPA shall be submitted to the following address:

EPA-New England, Region 1
5 Post Office Sq. Suite 100
Mail Code OEP05-2
Boston, MA 02109-3912

## XIX. Emission-Based Fee Requirements

A. Env-A 705.01, *Emission-based Fees*: The Owner or Operator shall pay to the Division each year an emission-based fee for emissions from the emission units listed in Condition III.

B. Env-A 705.02, *Determination of Actual Emissions for use in Calculating of Emission-based Fees*: The Owner or Operator shall determine the total actual annual emissions from the emission units listed in Condition III for each calendar year in accordance with the methods specified in Env-A 616, *Determination of Actual Emissions*..

C. Env-A 705.03, *Calculation of Emission-based Fees*: The Owner or Operator shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 705.03 and the following equation:

$$FEE = E * DPT$$

where:
FEE = The annual emission-based fee for each calendar year as specified in Env-A 705;
E = Total actual emissions as determined pursuant to Condition XIX.B.; and
DPT = The dollar per ton fee the Division has specified in Env-A 705.03(e)[13].

D. Env-A 705.04, *Payment of Emission-based Fee*: The Owner or Operator shall submit, to the Division, payment of the emission-based fee by April 15th for emissions during the previous calendar year. For example, the fees for calendar year 2010 shall be submitted on or before April 15, 2011.

## XX. Emission Offset Requirements

The Owner or Operator shall prior to commencing operation demonstrate that NOx offsets have been obtained in a ratio of 1.15 to 1.0. Such emission offsets shall be real, surplus, quantifiable, permanent and federally enforceable and shall be certified by the Division in accordance with all applicable state and federal regulations.

The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

April 6, 2010

Mr. Louis T. Bravakis
Vice President
Laidlaw Berlin BioPower, LLC
45 State Street
Montpelier, VT 05602

**Re: Request for Additional Information**
**70 Megawatt (MW) Biomass Electric Generating Facility**
**Laidlaw Berlin BioPower, 57 Hutchins Street, Berlin, NH**
**Facility ID # 3300790137; Application # 09-0285**

Dear Mr. Bravakis:

The New Hampshire Department of Environmental Services, Air Resources Division (DES) has reviewed the Temporary Permit application filed on December 16, 2009 by Laidlaw Berlin BioPower, LLC (LBB), for subject facility. The application was deemed complete in accordance with the New Hampshire Code of Administrative Rules Env-A 607.05, *Acknowledgement and Completeness of Application* on January 14, 2010. Copies of the application were transmitted to the City of Berlin and the Town of Gorham on January 21, 2010. DES has identified several issues for which DES requires additional information to proceed with review of the application. The purpose of this letter is to describe these issues and request additional information from LBB.

LBB's proposed project consists of a biomass fired bubbling fluidized bed (BFB) type boiler with an approximate heat input rate of 1,013 million British Thermal Units (MMBtu) per hour, a cooling tower, a 500 kilowatt emergency generator and a 288 horsepower fire pump. The proposed project will be a major source of nitrogen oxide (NOx) and volatile organic compound (VOC) emissions, with potential NOx and VOC emissions greater than 100 tons per year (tpy) and 50 tpy, respectively. The proposed project is therefore subject to Non-Attainment New Source Review under Env-A 618, *Additional Requirements in Non-Attainment Areas and the New Hampshire Portion of the Northeast Ozone Transport Region*, which requires the implementation of Lowest Achievable Emission Rate (LAER) for NOx and VOC emissions.

The proposed project will also have emissions of carbon monoxide (CO) in excess of the major source threshold of 250 tpy contained in Env-A 619, *Prevention of Significant Deterioration (PSD) of Air Quality Permit Requirements*. Coos County is classified as an attainment area for CO, sulfur dioxide ($SO_2$) and particulate matter (PM), including PM less than 10 microns in diameter ($PM_{10}$), and therefore, a PSD area for these pollutants. The PSD program requires the implementation of Best Available Control Technology (BACT) for each regulated new source review pollutant with potential emissions above the PSD significance thresholds. The proposed project is also subject to Maximum Achievable Control Technology (MACT) requirements for New Sources under Section 112(g) of the Clean Air Act.

In the above referenced application, LBB proposed the following LAER/BACT/MACT limits for the biomass boiler:

- $PM/PM_{10}$ - 0.012 pounds per million British Thermal Units (lb/MMBtu) (BACT)
- $SO_2$ - 0.025 lb/MMBtu (BACT)
- NOx - 0.065 lb/MMBtu (LAER)
- CO - 0.075 lb/MMBtu (BACT)
- VOC - 0.01 lb/MMBtu (LAER)
- Sulfuric Acid ($H_2SO_4$) - 0.004 lb/MMBtu (BACT)
- Hydrochloric acid (HCl) - 0.000834 lb/MMBtu (MACT)
- Mercury (Hg) - 0.000003 lb/MMBtu (MACT)
- Opacity - 20% (BACT)

In reviewing the proposed top-down BACT analysis, DES located permits that appear to have more stringent limits for $PM/PM_{10}$, $SO_2$, NOx, VOCs, Opacity and Hg as explained in the following paragraphs.

1. Particulate matter - The most stringent emission limit established for particulate matter is 0.01 lb/MMBtu. This limit was found in PSD permits for two facilities, namely PSNH -Schiller Station (New Hampshire, issued October 25, 2004, reissued March 7, 2006 and available at: http://des.nh.gov/onestop/index.htm) and Yellow Pine Energy Company (Georgia, issued May 15, 2009 and available at http://www.georgiaair.org/airpermit/html/permits/psd/dockets/yellowpine/index.htm). Both the permits require a baghouse to control PM emissions. Stack testing conducted by Schiller Station showed compliance with the emission limit of 0.01 lb/MMBtu.

2. Sulfur dioxide - The most stringent emission limit established for $SO_2$ is 0.0114 lb/MMBtu. This limit was established in the permit for Robbins Community Power (Illinois, issued June 23, 2008 and available at http://www.epa.gov/reg5oair/permits/ilonline.html). This facility operates two circulating fluidized bed type boilers (395 MMBtu/hr each with a spray dryer absorber). The next most stringent limit of 0.014 lb/MMBtu (30-day rolling average) was established in the permit for Yellow Pine Energy Company, Georgia for a bubbling fluidized bed type boiler rated at 1,529 MMBtu/hr. This permit requires the use of a dry scrubber system to control $SO_2$ emissions. The $SO_2$ emission limits for the biomass boilers at Robbins Community Power and Yellow Pine Energy have not yet been verified. However, please note that the PSD permit for PSNH-Schiller Station contains a $SO_2$ emission limit of 0.02 lb/MMBtu while firing biomass and the facility has demonstrated compliance with this emission limit.

3. Nitrogen oxides - The most stringent emission limit established for NOx is 0.06 lb/MMBtu. This limit was established in the permit for a new bubbling fluidized bed type boiler rated at 740 MMBtu/hr at Russell Biomass, LLC (Massachusetts, issued December 30, 2008 and available at the Massachusetts Department of Environmental Protection Western Region Office – file review information available at: http://www.mass.gov/dep/about/region/westernr.htm#filereview).

4. Volatile Organic Compounds - The most stringent emission limit established for VOCs is 0.005 lb/MMBtu. This limit was established in PSNH-Schiller Station's permit issued in 2004.
5. Mercury - The most stringent emission limit established for mercury is 0.0000012 lb/MMBtu in the Russell Biomass permit.
6. The most stringent emission limit established for opacity is 10%. This limit was established as a case-by-case MACT limit for PM (PSNH -Schiller Station) and would (at this time) also appear to represent BACT for $PM/PM_{10}$ emissions.

DES requests that LBB revise the BACT and LAER analyses for each of the pollutants noted above. The revised application should either propose emission limits at least as stringent as those noted above, or justify why the limits imposed on other facilities are not appropriate BACT or LAER limits for LBB's proposed facility.

The proposed project has potential emissions of beryllium, above the PSD significance threshold of 0.0004 tpy. The application submitted December 16, 2009 did not contain a BACT analysis for beryllium. Please submit a top-down BACT analysis for this pollutant.

Please note that, in addition to the BACT and LAER information requested in this letter, DES has also requested additional information specific to air dispersion modeling in an email to Dammon Frecker and John Purdum of ESS Group, Inc. on March 23, 2010. While some of the modeling issues have been addressed, ESS and DES have not finalized review of the air dispersion modeling.

When making information requests, DES typically requests the applicant to provide a written response within thirty days of receiving the request in accordance with New Hampshire Code of Administrative Rules, Env-A 607.06(b), *Application Deficiencies*. However, as you are aware, this project is currently undergoing review by the New Hampshire Site Evaluation Committee (NHSEC), the process of which is governed under RSA 162-H. Pursuant to RSA 162-H:6-a, *Time Frames for Review of Renewable Energy Facilities,* DES is required to report their progress to the subcommittee within 90 days of the acceptance of the application, outlining draft permit conditions and specifying additional data requirements necessary to make a final decision. This means that DES must make a draft determination by April 26, 2010. In order to meet this deadline, DES requests that a response to the above items be submitted no later than **April 16, 2010.**

If you have any questions concerning this matter, please contact Todd A. Moore at the Air Resources Division, Permitting and Environmental Health Bureau by phone at (603) 271-6798 or by e-mail at *todd.moore@des.nh.gov*.

Sincerely,

Gary D. Milbury
Air Permit Programs Manager
Permitting & Environmental Health Bureau

pb/gdm

cc: Thomas Burack, NHSEC Chairman
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April 19, 2010

Gary D. Millbury
Air Permit Program Manager
Permitting & Environmental Health Bureau
New Hampshire Department of Environmental Services
29 Hazen Drive
Concord, New Hampshire 03302-0095

***Re: Response to Request for Additional Information***
***Laidlaw Berlin BioPower LLC***
***Facility ID#3300790137; Application #09-0285***

Dear Mr. Millbury:

On behalf of Laidlaw Berlin BioPower LLC (LBB), ESS Group Inc. (ESS) is providing this response to your Request for Additional Information letter dated April 6, 2010, regarding the emissions limitations proposed to meet Best Available Control Technology (BACT), Lowest Achievable Emission Rate (LAER), and Maximum Achievable Control Technology (MACT) limits, as applicable, for the project's proposed biomass boiler. The information presented below addresses the Department of Environmental Services (DES) comments regarding opacity, Volatile Organic Compounds (VOC), mercury and beryllium. LBB's engineer's and technology providers are still evaluating the technical viability, as well as the economic and energy impacts of further reducing the project's proposed emissions limits for nitrogen oxides, particulate matter and sulfur dioxide as suggested in the DES's letter. We hope to provide additional information to DES in that regard on Monday April 19, 2010.

**Opacity**

LBB will accept an opacity limit of 10% presented in DES's letter and approved for the PSNH - Schiller Station wood fired boiler. LBB has consulted with the provider of the bubbling fluidized bed system for the project and has confirmed that the retrofitted boiler will be able to meet this opacity limitation[1].

**Volatile Organic Compounds**

DES's letter points to the permit for PSNH's wood fired boiler at Schiller Station as the reference for a VOC emissions limitation of 0.005 pounds per million Btu (lbs/MMBtu) as compared to the project's proposed VOC emission limit of 0.01 lbs/MMBtu. ESS and LBB note the importance of considering the potential collateral impact on emissions of other pollutants when evaluating emissions control strategies. Further reducing the project's VOC emissions may require higher excess oxygen levels in the furnace, which in turn have the potential to increase emissions of nitrogen oxides (NOx). It is noteworthy that the permit for Schiller establishes a NOx emissions limitation of 0.075 lbs/MMBtu, a limit that is 15% greater than the proposed NOx emission limit for the LBB project. If the LBB project were to achieve a similar overall emissions profile, emissions of VOC would be reduced by approximately 5.5 tons per year, while NOx emissions would increase by nearly twice this amount. ESS and LBB

[1] Based upon a 6-minute averaging period.

believe that the proposed emission rate of 0.01 lbs/MMBtu for VOC, when considered in balance with the potential impacts on emissions of other pollutants, represents LAER for the project.

**Mercury**

DES's letter references the permit issued to the Russell Biomass project in Massachusetts as providing "the most stringent emission limit established for mercury" at $1.2X10^{-6}$ lbs/MMBtu. As noted in Section 6.0 of the LBB Air Permit Application, MACT for a new source is defined as the emissions limitation achieved in practice by the best controlled similar source (emphasis added). The Russell Biomass project has not yet started construction and therefore has not demonstrated in practice that their proposed emissions limitation can be achieved. ESS and LBB believe that the proposed mercury emission limit of $3.0X10^{-6}$ lbs/MMBtu represents MACT for the Berlin BioPower project, consistent with the limit established in the prior US EPA MACT standard for such boilers.

**Beryllium**

DES correctly points out that the Air Permit Application submitted for the LBB project did not include a BACT analysis for beryllium, although the potential emissions for this pollutant exceed the threshold that requires such an analysis under the Prevention of Significant Deterioration (PSD) regulations. A top-down BACT analysis for beryllium is presented below.

**Control Technologies**

Beryllium is one of the Total Selected Metals (TSM) identified in the US EPA's prior MACT standard for wood fired boilers, which are considered to be a subset of particulate matter (PM) emissions. Therefore, controls for PM, in theory, should also control emissions of TSM. There are no distinct control technologies that have been demonstrated in practice specifically to control TSM (with the exception of Mercury) or beryllium alone. Both fabric filters and electrostatic precipitators (ESP's), such as that proposed by the project are known control technologies for PM.

**Prior BACT Determinations & Permit Limits**

The UP EPA's RACT/BACT/LAER Clearinghouse (RBLC) identifies three biomass-fired units with beryllium permit limits. One unit co-fires fossil fuels (oil and coal), and the other two burn tires. Given the difference in fuels, these units and permit limits are not appropriate for use in comparing emissions limits to LBB.

**Beryllium BACT Determination**

Beryllium emissions are primarily a function of the beryllium content of the fuel and therefore, may vary over a wide range. LBB has used the US EPA emission factor presented in AP-42 for wood-fired combustion to reasonable represent the level of beryllium emissions demonstrated in practice for a similar source. The AP-42 source test-

derived emission factor of 1.1 x $10^{-6}$ lb/MMBtu results in potential beryllium emissions from the project's boiler of approximately 24 pounds per year. LBB proposes that the use of clean wood fuel and the high level of particulate control provided by the project's ESP is BACT for controlling beryllium emissions from the project's boiler.

Should you have any information regarding the information presented above, please contact me at 781-489-1146, or dfrecker@essgroup.com.

Sincerely,

**ESS GROUP, INC.**

Dammon M. Frecker
Vice President, Energy & Industrial Services

C: LBB