MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION

November 20, 2017

PERMIT TO INSTALL 196-16A

ISSUED TO

Northern Michigan University

LOCATED AT

1401 Presque Isle Avenue Marquette, Michigan

IN THE COUNTY OF Marquette

STATE REGISTRATION NUMBER M3792

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

| DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: August 25, 2017 | | | |
|---|------------|--|--|
| DATE PERMIT TO INSTALL APPROVED: November 20, 2017 | SIGNATURE: | | |
| DATE PERMIT VOIDED: | SIGNATURE: | | |
| DATE PERMIT REVOKED: | SIGNATURE: | | |

PERMIT TO INSTALL

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| Common Abbrevia | tions / Acronyms |
|-----------------|------------------|
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| Common Acronyms | | | Ilutant / Measurement Abbreviations |
|-----------------|---|-------------------|--|
| AQD | Air Quality Division | acfm | Actual cubic feet per minute |
| BACT | Best Available Control Technology | BTU | British Thermal Unit |
| CAA | Clean Air Act | °C | Degrees Celsius |
| CAM | Compliance Assurance Monitoring | СО | Carbon Monoxide |
| CEM | Continuous Emission Monitoring | CO ₂ e | Carbon Dioxide Equivalent |
| CFR | Code of Federal Regulations | dscf | Dry standard cubic foot |
| СОМ | Continuous Opacity Monitoring | dscm | Dry standard cubic meter |
| Department/ | Michigan Department of | °F | Degrees Fahrenheit |
| department | Environmental Quality | gr | Grains |
| EU | Emission Unit | HAP | Hazardous Air Pollutant |
| FG | Flexible Group | Hg | Mercury |
| GACS | Gallons of Applied Coating Solids | hr | Hour |
| GC | General Condition | HP | Horsepower |
| GHGs | Greenhouse Gases | H_2S | Hydrogen Sulfide |
| HVLP | High Volume Low Pressure* | kW | Kilowatt |
| ID | Identification | lb | Pound |
| IRSL | Initial Risk Screening Level | m | Meter |
| ITSL | Initial Threshold Screening Level | mg | Milligram |
| LAER | Lowest Achievable Emission Rate | mm | Millimeter |
| MACT | Maximum Achievable Control | ММ | Million |
| MAERS | Michigan Air Emissions Reporting | N/N/ | Mogowatte |
| | System | | Meyawalls |
| MAP | Malfunction Abatement Plan | NMOC | Non-methane Organic Compounds |
| MDEQ | Michigan Department of | NOx | Oxides of Nitrogen |
| MODO | Environmental Quality | ng | Nanogram |
| MSDS | Material Safety Data Sheet | РМ | Particulate Matter |
| | Not Applicable | DM10 | Particulate Matter equal to or less than 10 |
| NAAQS | Standards | FINITO | microns in diameter |
| NESHAP | National Emission Standard for | | Particulate Matter equal to or less than 2.5 |
| | Hazardous Air Pollutants | PM2.5 | microns in diameter |
| NSPS | New Source Performance Standards | pph | Pounds per hour |
| NSR | New Source Review | ppm | Parts per million |
| PS | Performance Specification | ppmv | Parts per million by volume |
| PSD | Prevention of Significant Deterioration | ppmw | Parts per million by weight |
| PTE | Permanent Total Enclosure | psia | Pounds per square inch absolute |
| PTI | Permit to Install | psig | Pounds per square inch gauge |
| RACT | Reasonable Available Control | scf | Standard cubic feet |
| ROP | Renewable Operating Permit | sec | Seconds |
| SC | Special Condition | SO ₂ | Sulfur Dioxide |
| SCR | Selective Catalytic Reduction | TAC | Toxic Air Contaminant |
| SNCR | Selective Non-Catalytic Reduction | Temp | Temperature |
| SRN | State Registration Number | тнс | Total Hydrocarbons |
| TEQ | Toxicity Equivalence Quotient | tpy | Tons per year |
| USEPA/EPA | United States Environmental | μg | Microgram |
| | Protection Agency | μm | Micrometer or Micron |
| VE | Visible Emissions | VOC | Volatile Organic Compounds |
| | | vr | Year |

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

GENERAL CONDITIONS

- The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. (R 336.1201(1))
- 2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. (R 336.1201(4))
- 3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. (R 336.1201(6)(b))
- 4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. (R 336.1201(8), Section 5510 of Act 451, PA 1994)
- 5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. (R 336.1219)
- 6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
- 7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). (R 336.1912)
- 8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
- 9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
- 10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

- 11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. (R 336.1301)
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
- Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). (R 336.1370)
- 13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. (R 336.2001)

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

| Emission Unit ID | Emission Unit Description (Process Equipment & Control | Installation Date / Modification Date | Flexible Group ID |
|------------------|--|--|-------------------|
| EU-OLDBOILER | Natural gas/fuel oil-fired boiler; maximum steam production of 70,000 lb/hr. The boiler has a rated heat input capacity of 83.6 MMBtu/hr when firing natural gas, and 79.8 MMBtu/hr when firing fuel oil. | 1965 | FG-POWERHOUSE |
| EU-BOILER4 | Natural gas/fuel oil-fired boiler with a low- NOx burner and flue gas recirculation; maximum steam production of 70,000 lb/hr. The boiler has a rated heat input capacity of 83.6 MMBtu/hr when firing natural gas, and 79.8 MMBtu/hr when firing fuel oil. | 2006 | FG-POWERHOUSE |
| EU-BOILER5 | Natural gas/fuel oil-fired boiler with a low- NOx burner and flue gas recirculation; maximum steam production of 70,000 lb/hr. The boiler has a rated heat input capacity of 83.6 MMBtu/hr when firing natural gas, and 79.8 MMBtu/hr when firing fuel oil. | 2006 | FG-POWERHOUSE |
| EU-RGSBBOILER | A reciprocating grate stoker-fired boiler capable of burning biomass or natural gas. The boiler is a combination water tube/fire tube design. The boiler has a rated heat input capacity of 59.59 MMBtu/hr when firing biomass, and 55 MMBtu/hr when firing natural gas. The boiler is equipped with over-fire air combustion, a multiclone, and dry electrostatic precipitator for the control of particulate matter emissions when combusting biomass. The boiler produces steam for use on campus and to generate electricity. The nominal generator electrical output rating is less than 1 MW. The steam output design capacity is 42,000 pounds per hour. | TBD | FG-POWERHOUSE |

| Emission Unit ID | Emission Unit Description (Process Equipment & Control Devices) | Installation Date / Modification Date | Flexible Group ID | | | | |
|---|--|--|-------------------|--|--|--|--|
| EU- MATRLHANDLING | Both biomass and ash handling occur inside a building. Biomass fuel is delivered by trucks and moved within the building by conveyors. Design throughput is 9 tons per hour. Ash handling (fly ash and bottom ash) using enclosed conveyors and storage in two enclosed roll-off ash bins for off-site disposal. | 2012 | FG-POWERHOUSE | | | | |
| | Bulk deliveries of biomass are received inside the enclosed fuel storage building via covered trucks. The building has a Hydraulic Live Bottom Fuel Bunker Scrape System (approximately 29,000 cubic feet of storage space) that brings fuel to a cross transfer vibrating conveyor, feeding to a drag chain conveyor and an overs conveyor. The overs conveyor removes oversize biomass to an oversize bin. The drag chain conveyor delivers fuel from the bunker unit to the two metering/storage bins with a combined capacity of 4,000 lbs. of fuel. The discharge rate to the bins is about 9 tons per hour. Fuel is fed into the inclined stepped grate from the bins via four stainless steel fuel stoking screw conveyors. | | | | | | |
| Changes to the equip by R 336.1278 to R 33 | Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290. | | | | | | |

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

| Flexible Group ID | Flexible Group Description | Associated Emission Unit IDs |
|-------------------|---|---|
| FG-FACILITY | All process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment. | |
| FG-POWERHOUSE | Three natural gas/fuel oil boilers with distillate oil as backup fuel used to produce steam for the University. One reciprocating grate stoker-fired boiler capable of burning biomass or natural gas (not physically capable of co-firing both fuels) and used to produce steam and electricity for the University. | EU-OLDBOILER, EU-BOILER4, EU-BOILER5 EU-RGSBBOILER |

The following conditions apply to: FG-FACILITY

DESCRIPTION: All process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.

I. EMISSION LIMITS

| Pollutant | Limit | Time Period/ Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|-----------|--------------------|---|-------------|-----------------------------------|--|
| 1. NOx | 99.9 tons per year | 12-month rolling time period as determined at the end of each calendar month | FG-FACILITY | SC VI.1, SC VI.3 | R 336.1205(1)(a) and (b) |
| 2. SO2 | 99.9 tons per year | 12-month rolling time period as determined at the end of each calendar month | FG-FACILITY | SC VI.1, SC VI.3 | R 336.1205(1)(a) and (b) |

II. MATERIAL LIMITS

| Material | Limit | Time Period/ Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|--|------------------|---------------------------------------|-------------|-----------------------------------|--|
| 1. Distillate oil sulfur content | 0.50 % by weight | Instantaneous | FG-FACILITY | SC VI.2 | R 336.1205 |

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. (**R 336.1205(1)(a) and (b)**)

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- The permittee shall keep, in a satisfactory manner, monthly and rolling 12-month fuel use (natural gas, biomass, and fuel oil) and distillate oil sulfur content for FG-FACILITY. All records shall be kept on file for a period of at least five years and made available to the Department upon request. (R 336.1205(1)(a) and (b))
- The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period NOx and SO2 emission calculation records for FG-FACILITY, as required by SC I.1, I.2 and Appendix A. All records shall be kept on file for a period of at least five years and made available to the Department upon request. Calculations shall be performed in accordance with the procedures contained in Appendix A. (R 336.1205(1)(a) and (b))

VII. <u>REPORTING</u>

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to: FG-POWERHOUSE

DESCRIPTION: Three natural gas/fuel oil boilers with distillate oil as backup fuel used to produce steam for the University.

One reciprocating grate stoker-fired boiler capable of burning biomass or natural gas (not physically capable of co-firing both fuels) and used to produce steam and electricity for the University.

Emission Units: EU-OLDBOILER, EU-BOILER4, EU-BOILER5, EU-RGSBBOILER

POLLUTION CONTROL EQUIPMENT:

EU-RGSBBOILER is equipped with a multi-clone and dry electrostatic precipitator for the control of particulate matter emissions when combusting biomass.

I. EMISSION LIMITS

| Pollutant | | Limit | Time Period / Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|-----------|-------|--|---|--|--------------------------------------|--|
| 1. | VE | 20% Opacity | 6-minute average, except one 6-minute average per hour of not more than 27 percent when firing fuel oil | EU-BOILER4 EU-BOILER5 | 40 CFR Part 60 Subparts A & Dc | 40 CFR Part 60 Subparts A & Dc |
| 2. | VE | 10% opacity | 6-minute average, except one 6-minute average per hour of not more than 20 percent except for periods of startup and shutdown | EU-RGSBBOILER, when combusting biomass | SC VI.1 | R 336.1301(c), 40 CFR 60.43c(c), 40 CFR 63.11201 |
| 3. | PM10 | 3.0 pph | Hourly | EU-RGSBBOILER, when combusting biomass | SC V.1 | R 336.2803 R 336.2804 40 CFR 52.21(c), 40 CFR 52.21(d) |
| 4. | PM2.5 | 2.7 pph | Hourly | EU-RGSBBOILER, when combusting biomass | SC V.1 | R 336.2803, R 336.2804. 40 CFR 52.21(c), 40 CFR 52.21(d) |
| 5. | РМ | 0.03 lb/MMBtu (not applicable during periods of startup or shutdown) | Hourly | EU-RGSBBOILER, when combusting biomass | SC V.1 | R 336.1224 ¹ , R 336.1331, 40 CFR 60.43c(b)(1), 40 CFR 63.11201 |
| 6. | NOx | 14.9 pph | 30-day rolling average as determined each day the boiler operates | EU-RGSBBOILER | SC V.1 | R 336.2803, R 336.2804, 40 CFR 52.21(c), 40 CFR 52.21(d) |
| 7. | CO | 7.2 pph | Hourly | EU-RGSBBOILER, when combusting biomass | SC V.1 | R 336.2804 40 CFR 52.21(d) |
| 8. | VOC | 0.039 lb/MMBtu | Hourly | EU-RGSBBOILER, when combusting biomass | SC V.1 | R 336.1702(a) R 336.1224 ¹ |

II. MATERIAL LIMITS

| Material | Limit | Time Period / Operating Scenario | Equipment | Testing / Monitoring Method | Underlying Applicable Requirements |
|------------------------------------|--------------------------------|---|---|-----------------------------------|--|
| 1. Steam production | 443,000,000 pounds per year | 12 month rolling time period, as determined at the end of each calendar month | FG-POWERHOUSE | SC VI.2 | R 336.1205(1)(a) and (b) |
| 2. Biomass | 42,000 tons per year | 12 month rolling time period, as determined at the end of each calendar month | EU-RGSBBOILER | SC VI.2 | R 336.1205(1)(a) and (b) |
| Distillate oil | 212,800 gallons per year | 12 month rolling time period, as determined at the end of each calendar month | EU-OLDBOILER, EU-BOILER4, EU- BOILER5 | SC VI.2 | R 336.1205(1)(a) and (b) |
| 4. Distillate oil sulfur content | 0.50 % by weight | Instantaneous | EU-BOILER4, EU- BOILER5 | SC VI.3 | 40 CFR 60.48c(f) |

5. The permittee may combust natural gas or biomass in EU-RGSBBOILER. Biomass means any biomass-based solid fuel that is not a solid waste. This includes, but is not limited to, wood residue and wood products (e.g., trees, tree stumps, tree limbs, bark, lumber, sawdust, sander dust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard pruning's, corn stalks, coffee bean hulls and grounds. This definition of biomass is not intended to suggest that these materials are or are not solid waste. (40 CFR 63.11237, R 336.1205, R 336.1225¹, R 336.1702, R 336.1901)

III. PROCESS/OPERATIONAL RESTRICTIONS

- When meeting the definition of a biomass boiler under 40 CFR 63.11237, the permittee shall conduct a biennial performance tune-up of EU-RGSBBOILER as specified in 40 CFR 63.11223(b). (40 CFR 63.11214(b))
- The permittee shall not operate EU-RGSBBOILER simultaneously with more than two of the following three boilers: EU-OLDBOILER, EU-BOILER4, EU-BOILER5. (R 336.1205, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))
- 3. The permittee shall not operate EU-RGSBBOILER on biomass unless a preventative maintenance/malfunction abatement plan (PM/MAP) as described in Rule 911(2), has been submitted to the AQD District Supervisor and is implemented and maintained. If at any time the PM/MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the PM/MAP within 45 days after such an event occurs. The permittee shall also amend the PM/MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the PM/MAP and any amendments to the PM/MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the PM/MAP or amended PM/MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. (R 336.1205, R 336.1331, R 336.702(a), R 336.1910, R 336.1911, R 336.1912)

- 4. The permittee shall not operate EU-RGSBBOILER on biomass unless a Fuel Procurement and Monitoring Plan (FPMP) for biomass fuel has been submitted and approved by the AQD District Supervisor. The FPMP shall be implemented and maintained at all times to ensure that the biomass used in EU-RGSBBOILER meets the definition of biomass, as defined in SC II.5, and to prevent unacceptable waste from being burned. The plan shall, at a minimum, specify the following:
 - a. A description of biomass to be burned.
 - b. Inspection and sorting procedures and protocol used to eliminate prohibited fuels and minimize unacceptable fuels.
 - c. Auditing procedures including records of fuel specification, load identification, quality control of load and fuel pile.

The permittee shall submit the FPMP and any amendments to the AQD District Supervisor for review and approval. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. If the AQD does not notify the permittee within 45 days of submittal, the FPMP or amended FPMP shall be considered approved. (R 336.1205(1)(a) and (b), R 336.1225, R 336.1901)

IV. DESIGN/EQUIPMENT PARAMETERS

- The permittee shall not combust biomass in EU-RGSBBOILER unless the over-fire air system, multi-clone and dry electrostatic precipitator are installed, maintained, and operated in a satisfactory manner. (R 336.1205(1)(a) and (b), R 336.1225, R 336.1301, R 336.1331, R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d), 40 CFR 60 Subpart Dc, 40 CFR 63 Subpart JJJJJJ)
- 2. The permittee shall not operate EU-BOILER4, EU-BOILER5, or combust natural gas in EU-RGSBBOILER unless each low-NOx burner and flue gas recirculation system is installed, maintained, and operated in a satisfactory manner. (R 336.1205(1)(a) and (b), R 336. 1901, R 336.1910)

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- 1. Within 90 days after written notification of the District Supervisor of the Air Quality Division, the permittee shall verify PM, PM-10, PM-2.5, CO, VOC and NOx emission rates from EU-RGSBBOILER by testing at owner's expense, in accordance with Department requirements. The hourly emission rates shall be determined by the average of the acceptable three test runs per the applicable method requirements. Alternatively, the permittee may request approval from the AQD District Supervisor to use other similar test results for compliance purposes. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.2001)
- 2. If the permittee operates EU-RGSBBOILER as a gas-fired boiler, then returns to operation on biomass, a compliance demonstration on biomass is required within 180 days after firing biomass, if 3 years have passed since the last demonstration. (40 CFR 63.11220 (e))
- The permittee shall keep records for each delivery or shipment of the fuel oil, indicating the sulfur content by percent weight or ppm, or that the fuel oil complies with Low Sulfur standards for ULSD of 15 ppm. (40 CFR 60.48c(f), R 336.1401, R 336.1205(3)))

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

- 1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the visible emissions when combusting biomass in EU-RGSBBOILER on a continuous basis. The permittee shall install and operate the COM system to meet the timelines, requirements and reporting detailed in 40 CFR Part 60 Subpart Dc. (R 336.1301, R 336.1331, 40 CFR 60.47c, 40 CFR 63.11224)
- 2. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit. This information shall include, but shall not be limited to:
 - a. Compliance tests and any testing required under 40 CFR Subpart Dc or the special conditions of this permit.
 - b. Monitoring data.
 - c. Heat input calculations.
 - d. The amount of biomass combusted in EU-RGSBBOILER on a dailybasis.
 - e. All records required by 40 CFR §60.7 and §60.48c.
 - f. All information required in the Notice of Compliance Status report required under 40 CFR Part 63 Subpart JJJJJJ.
 - g. Steam production (lbs/month and lbs/year) on a rolling 12-month timeperiod basis.
 - h. The amount of fuel oil combusted in EU-OLDBOILER, EU-BOILER4, and EU-BOILER5 on a monthly and 12-month rolling basis.

All of the above information shall be stored in a format acceptable to the Air Quality Division and shall be consistent with the requirements of 40 CFR 60.7(f). (R 336.1205(1)(a) and (b), R 336.1225¹, R 336.1301, R 336.1331, R 336.1401, R 336.1702(a), R 336.1901¹, R 336.1912, 40 CFR 52.21(c) & (d), 40 CFR 60.48c, 40 CFR 60.7(f), 40 CFR Part 63 Subpart JJJJJJ)

- 3. The permittee shall keep, in a satisfactory manner, fuel oil supplier certification for each delivery of fuel oil. The certification shall include the name of the fuel oil supplier and a statement from the fuel oil supplier that the fuel oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. (40CFR 60.48c(f))
- 4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor the natural gas and fuel oil usage for EU-BOILER4 and EUBOILER5, and natural gas usage for EU-RGSBBOILER when combusting natural gas, on a continuous basis. (R 336.1205(1)(a) and (b), R 336.1225, R 336.1702(a))

VII. <u>REPORTING</u>

1. The permittee shall submit notification if a fuel switch occurs that changes the applicable subcategory of EU-RGSBBOILER according to 40 CFR 63.11200. (40 CFR 63.11225(g))

VIII.STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

| Stack & Vent ID | Maximum Exhaust Diameter/Dimensions (inches) | Minimum Height Above Ground (feet) | Underlying Applicable Requirements |
|----------------------|--|--|---|
| 1. SV- EU-RGSBBOILER | 42 | 85 | R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d) |
| 2. SV-BLRS4&5 | 108 | 150 | R336.1225, 40 CFR 52.21 (c) & (d) |

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all of the applicable requirements contained in the 40 CFR Part 60, Subparts A and Dc, and 40 CFR Part 63 Subpart JJJJJJ as applicable to EU-RGSBBOILER. (40 CFR Part 60, Subparts A and Dc, 40 CFR Part 63 Subpart JJJJJJJ)

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A

Procedures for Calculating Facility NOx and SO2 Emissions and the total heat release of the facility

Compliance with the NO_x and SO₂ emission limits will be demonstrated by keeping track of all fuel usage (biomass, natural gas and fuel oil) for all equipment at the facility using such fuel at this facility (or conservative engineering estimate such as maximum fuel flow capacities where actual fuel usage is unavailable) and multiplying that fuel usage by an equipment specific emission factor. The emission factors are typically expressed as a mass weight of pollutant per unit of fuel.

The permittee shall use emission factors from equipment vendor guarantees or from source specific testing (stack testing) or from the fuel supplier certifications (for SO₂ calculations). If vendor data or stack test data is not available, the permittee shall use emission factors contained in the most recent AP-42 (Compilation of Air Pollutant Emission Factors) or the most recent FIRE (Factor Information Retrieval) database. If other emission source values are used, the permittee shall obtain the approval of the district supervisor before using the emission factors to calculate emissions.

The permittee shall document the source and date of origin of the emission factors used in the calculations.