West Virginia Department of Environmental Protection

Harold D. Ward
Cabinet Secretary

Construction Permit

R13-3708

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 CSR 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
MGS CNP1, LLC
053-00134
BECCS Plant/Point Pleasant

Laura M. Crowder
Director, Division of Air Quality

Issued: DRAFT

Facility Location:	5801 Ohio River Rd Point Pleasant, Mason County, West Virginia 2550
Mailing	109 N. Post Oak Ln Ste. 140 Houston, TX 77024
Facility Description:	Biomass fired, steam to electricity power plant
NAICS Codes:	221117 - Biomass Electric Power Generation
UTM Coordinates:	403.93 km Easting • 4,308.98 km Northing • Zone 17N
Latitude/Longitude:	39.9245069°N/-82.1082251°W
Permit Type:	Construction
Description of Change:	This action is for the construction of a biomass fired, bubbling bed boiler to generate steam which is used to generate electricity not for sale. Other emission units associated with the facility are biomass (fuel) handling/processing/storage, cooling towers, and two engines (one non-emergency engine limited to 100 hr/yr and one emergency engine).

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.

As a result of the granting of this permit, the source is a nonmajor source subject to 45CSR30. The permittee shall apply for a Title V (45CSR30) permit in accordance with the requirements of 45CSR30 unless granted a deferral or exemption by the Director from such filing deadline pursuant to a request from the permittee.

Table of Contents

1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
BFB Boiler					
121-H-2001	122-T-1001 or 121-PKG-3001	Wood Chip Fired Fluidized Bed Boiler	2026	944 MMBtu/hr	H2001-1C/2C/3C/4C/5C
121-S-5001		Makeup Sand Silo	2026	1,660 ft^3	
121-S-9901		Sodium Bicarbonate Storage Silo	2026	2,000 ft^3	
Biomass Handling Process					
121-LS-1001	121-PKG-1001	Biomass Receiving Hopper 1001	2026	6,000 ft^3	121-PKG-1001
121-LS-1002		Biomass Receiving Hopper 1002	2026	6,000 ft^3	
121-CV-1001	121-CV-1001	Conveyor #1 from Biomass Receiving Hopper 1001 to Storage Pile	2026	106.07 tons/hr	Covered
121-CV-1002	121-CV-1002	Conveyor #2 from Biomass Receiving Hopper 1002 to Storage Pile	2026	106.07 tons/hr	Covered
CHIP-1	CHIP-1	Biomass Storage Pile Loading Fugitives	2026	106.07 tons/hr	NA
121-S-1001	121-S-1001	Biomass Feed Hopper	2026	1800 ft^3	NA
121-CV-1003	121-CV-1003	Conveyor from Feed Hopper to 121-CV-2001 A/B	2026	106.07 tons/hr	Covered
121-CV-2001 A	121-CV-2001 A	Screw Conveyor from Biomass Feed Hopper A to Biomass Fuel Metering Bin 121-S-2001 A	2026	106.07 tons/hr	Covered
121-CV-2001B	121-CV-2001B	Screw Conveyor from Biomass Feed Hopper B to Biomass Fuel Metering Bin 121-S-2001 B	2026	106.07 tons/hr	Covered
121-S-2001 A	121-S-2001 A	Biomass Fuel Metering Bin A	2026	4,200 ft^3	NA
121-S-2001 B	121-S-2001 B	Biomass Fuel Metering Bin B	2026	4,200 ft^3	NA
CHIP-2	CHIP-2	Wood Chips Storage Pile	2026	35,628 tons	NA
Fly Ash / Economizer Ash Handling Process					
121-CV-4001 A	121-CV-4001 A	PJFF Ash Collection Drag Chain Conveyor A (From boiler hopper to surge bin A)	2026	4.5 tons/hr	Covered
121-CV-4001 B	121-CV-4001 B	PJFF Ash Collection Drag Chain Conveyor B (from boiler to surge bin B)	2026	4.5 tons/hr	Covered
121-CV-4002	121-CV-4002	PJFF Ash Transport Drag Chain Conveyor (From Surge Bins #1 and #2 to PJFF Ash Transfer Drag Chain Conveyor)	2026	4.5 tons/hr	Covered
121-CV-4003	121-CV-4003	PJFF Ash Transfer Drag Chain Conveyor (to Ash Bucket Elevator)	2026	4.5 tons/hr	Covered
121-CV-4004	121-CV-4004	Ash Bucket Elevator	2026	4.5 tons/hr	Covered

121-CV-4005	121-CV-4005	Ash Distribution Drag Chain Conveyor (From Ash Bucket Elevator to Fly Ash Storage Silos)	2026	4.5 tons/hr	Covered
121-CV-4006 A	121-CV-4006 A	Economizer Hopper Ash Drag Chain Conveyor A (From Economizer Hopper to Economizer Hopper Ash Surge Bin A)	2026	3.3 tons/hr	Covered
121-CV-4006 B	121-CV-4006 B	Economizer Hopper Ash Drag Chain Conveyor B (From Economizer Hopper to Economizer Hopper Ash Surge Bin B)	2026	3.3 tons/hr	Covered
121-CV-4007 A	121-CV-4007 A	Economizer Ash Transport Conveyor A (From Economizer Ash Surge Bin A to Fly Ash Silo A)	2026	3.3 tons/hr	Covered
121-CV-4007 B	121-CV-4007 B	Economizer Ash Transport Conveyor B (From Economizer Ash Surge Bin B to Fly Ash Silo B)	2026	3.3 tons/hr	Covered
121-S-4001 A	121-F-4001 A	Fly Ash Storage Silo A	2026	9,500 ft^3	121-F-4001 A
121-S-4001 B	121-F-4001 B	Fly Ash Storage Silo B	2026	9,500 ft^3	121-F-4001 B
121-TL-0001	121-TL-0001	Fly Ash Truck Loading	2026	8.6 tons/hr	N/A
Bottom Ash and Sand Handling Process					
121-CV-5001 A	121-CV-5001 A	Metering Conveyor A (Bed Ash Screw A)	2026	2250 lbs/hr	Covered
121-CV-5001 B	121-CV-5001 B	Metering Conveyor B (Bed Ash Screw B)	2026	2250 lbs/hr	Covered
121-CV-5002A	121-CV-5002A	Vibrating Screener A (to separate bottom ash and sand)	2026	2250 lbs/hr	Partial Enclosure
121-CV-5002B	121-CV-5002B	Vibrating Screener B (to separate bottom ash and sand)	2026	2250 lbs/hr	Trough hood (Partial enclosure)
121-S-1002	121-S-1002	Sand Receiving Hopper	2026	6,000 ft^3	NA Covered Vent piping to the BFB
121-CV-1004	121-CV-1004	Inclined Sand Hopper Conveyor	2026	50 tons/hr	
121-CV-5003 A	121-CV-5003 A	Transfer Conveyor A (Recycled Sand) (From Vibrating Screener A to Sand Bucket Elevator A)	2026	6,000 lbs/24 hours	Partial Enclosure)
121-CV-5003 B	121-CV-5003 B	Transfer Conveyor B (Recycled Sand) (From Vibrating Screener B to Sand Bucket Elevator B)	2026	6000 lbs/24 hours	Partial Enclosure)
121-CV-5004 A	121-CV-5004 A	Sand Bucket Elevator A (Recycled Sand + Fresh Sand)	2026	650	Covered
121-CV-5004 B	121-CV-5004 B	Sand Bucket Elevator B (Recycled Sand + Fresh Sand)	2026	650	Covered

$NaHCO_3$ Handling Process					
121-S-9901	121-PKG-3001; 122-T-1001	Sodium Bicarbonate Storage Silo	2026	1400 scfm gas flow (intermittent, 86 hrs/yr)	Vent routed to PJFF
121-S-9902 A	121-F-9902 A	Sodium Bicarbonate Vent Hopper A	2026	126 lbs/hr	121-F-9902 A
121-S-9902 B	121-F-9902 B	Sodium Bicarbonate Vent Hopper B	2026	126 lbs/hr	121-F-9902 B
Others Point Sources					
129-CT-9301	129-CT-9301	Cooling Tower	2026	80,762 gpm	NA
PM-PlantRd	PM-PlantRd	Truck Road Fugitive Particulate Emissions	2026	Max 203 vehicles per day; On average 107 vehicles per day	NA
122-TK-9902	122-TK-9901	Amine Makeup Tank	2026	8812 gal (max)	NA
122-TK-9901	122-TK-9901	Lean Amine Tank	2026	375,986 gal (max)	NA
129-P-9402	129-P-9402	Fire Water Pump (emergency engine)	2026	614 HP	NA
129-PKG-0001	129-PKG-0001	NG Startup Generator (non-emergency engine)	2026	3,000 HP	NA
VOC-Amine-LOAD	VOC-Amine-LOAD	Truck Loadout of Degraded Amine	2026	6.3 Mgal/hr	NA
127-PKG-0001	127-PKG-001	Wastewater Treatment Plant	2026	0.17 Mgal/yr 1,517.49 Mgal/yr	NA
Tanks					
129-TK-9402	129-TK-9402	Diesel Tank	2026	1616 gal (max)	NA
122-PKG-2001	122-PKG-2001	Biodegraded Amine Tank	2026	4,488 gal (max)	NA

LNB – Low NO_x Burner
SCR – Selective Catalytic Reduction to control oxides of nitrogen emissions.
Ox Cat – Oxidation Catalyst to control carbon monoxide and VOC emissions.

2.0. General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NO_X**	Nitrogen Oxides
CBI	Confidential Business Information	**NSPS**	New Source Performance Standards
CEM	Continuous Emission Monitor	**PM**	Particulate Matter
CES	Certified Emission Statement	**$PM_{2.5}$**	Particulate Matter less than 2.5 µm in diameter
CFR	Code of Federal Regulations		
CO	Carbon Monoxide	**PM_{10}**	Particulate Matter less than 10µm in diameter
CSR	Codes of State Rules		
DAQ	Division of Air Quality	**ppb**	Pounds per Batch
DEP	Department of Environmental Protection	**pph**	Pounds per Hour
		ppm	Parts per Million
dscm	Dry Standard Cubic Meter	**ppm_V**	Parts per Million by Volume
FOIA	Freedom of Information Act		
GHG	Greenhouse Gases	**PSD**	Prevention of Significant Deterioration
HAP	Hazardous Air Pollutant		
HON	Hazardous Organic NESHAP	**psi**	Pounds per Square Inch
HP	Horsepower	**SIC**	Standard Industrial Classification
lbs/hr	Pounds per Hour		
LDAR	Leak Detection and Repair	**SIP**	State Implementation Plan
M	Thousand	**SO_2**	Sulfur Dioxide
MACT	Maximum Achievable Control Technology	**TAP**	Toxic Air Pollutant
		TPY	Tons per Year
MDHI	Maximum Design Heat Input	**TRS**	Total Reduced Sulfur
MM	Million	**TSP**	Total Suspended Particulate
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour	**USEPA**	United States Environmental Protection Agency
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour	**UTM**	Universal Transverse Mercator
		VEE	Visual Emissions Evaluation
NA	Not Applicable	**VOC**	Volatile Organic Compounds
NAAQS	National Ambient Air Quality Standards	**VOL**	Volatile Organic Liquids
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation*.

2.4. Term and Renewal

2.4.1. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-3708, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to;
[45CSR§§13-5.10 and 10.3.]

2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 CFR Part 2.

2.7. Duty to Supplement and Correct Information

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

2.11. Inspection and Entry

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[WV Code § 22-5-4(a)(9)]

2.12. Reserved

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

2.14. Suspension of Activities

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

2.15. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1.]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 CFR § 61.145, 40 CFR § 61.148, and 40 CFR § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 CFR § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40CFR§61.145(b) and 45CSR§34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1] ***[State Enforceable Only]***

3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2.]

3.2. Monitoring Requirements

[Reserved]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling

connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 CFR Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language;
2. The result of the test for each permit or rule condition; and,
3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for

continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Said records shall be maintained on site or in a readily accessible off-site location maintained by the permittee for a period of five (5) years. Said records shall be readily available to the Secretary of the Division of Air Quality or his/her duly authorized representative for expeditious inspection and review. Any records submitted to the agency pursuant to a requirement of this permit or upon request by the Secretary shall be certified by a responsible official. Where appropriate, the permittee may maintain records electronically. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§4. *State Enforceable Only.*]

3.4.3. The permittee shall install and maintain an industrial fence around this permitted facility as outlined in the March 14, 2021, submittal of the Prevention of Significant Deterioration Air Quality Dispersion Modeling Report. This industrial fence shall be constructed in such a manner to prevent the general public from accessing this permitted facility.

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by email as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

US EPA:
Section Chief
U.S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance
Division Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

DAQ Compliance and Enforcement[1]:
DEPAirQualityReports@wv.gov

[1]For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status Reports, Initial Notifications, etc.

3.5.4. Operating Fee

3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.4.2. In accordance with 45CSR30 – Operating Permit Program, newly permitted facilities will be sent a Certified Emissions Statement (CES) Invoice, covering the date of initial startup through the following June 30. Said invoice and the appropriate fee shall be submitted to this office no later than 30 days prior to the date of initial startup.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Specific Requirements for the BFB Boiler (121-H-2001)

4.1. Limitations and Standards

4.1.1. This permit allows the permittee to construct one bubbling fluidize bed boiler to generate steam for the main purpose of generating electricity. The following conditions and requirements are specific to the boiler:

a. Emissions generated from the boiler shall not exceed the following emission standards:

Table 4.1.1.a. Emission Limits for 121-H-2001

Pollutant	Emission Standard	Basis	Compliance Method [b]	Averaging Time
NO_X	0.30 lb/MMBtu Or 2.1 lb/kWh	NSPS Db	CEMS	30-operating day rolling avg.
	0.022 lb/MMBtu[a]	Permit Limit		30-operating day rolling avg.
CO	10.20 lb/hr	Permit Limit	Testing & Control Device Monitoring	3-hr block avg.
VOC	1.89 lb/hr	Permit Limit	Initial stack test, Subsequent when required	Avg. Three -1hr runs
	4.43 lb/hr[b]			
$PM_{10}/PM_{2.5}$	15.54 lb/hr[c]	Permit Limit	Initial stack test	Avg. of three 2-hr runs
PM	0.030 lb/MMBtu	NSPS Db & MACT JJJJJJ[e]	Testing & Control Device Monitoring, Subsequent when required	Avg. of three 2-hr runs
	0.050 lb/MMBtu	Rule 2		
SO_2	11.58 lb/hr	Permit Limit	Testing, Operating Parameters & Fuel Analysis	Avg of three 1-hr runs
	140 ng/J or 0.32lb SO_2/MMBtu[d]	NSPS Db	Fuel Sampling & Analysis	N/A
HCl	1.18 lb/hr	Permit Limit	Testing & Control Device Monitoring	Avg of three 1-hr runs
H_2SO_4	6.35 lb/hr	Permit Limit	Testing & Control Device Monitoring	Avg of three 1-hr runs

Total Organic HAPs	1.91 lb/hr	Permit Limit	Testing & Control Device Monitoring	Avg of three 1-hr runs
	3.97 lb/hr[b]			
Total HAPs	3.36 lb/hr	N/A	Control Device Monitoring	Avg of three 1-hr runs
	5.42 lb/hr[b]			

a. The permitted NO_x Limit applies at all times, including start-up and shut-down events.
b. The limit only applies when the exhaust is directed to the carbon capture unit (CCU) and exhausted through Emission Point 122-T-1001.
c. These limits include the filterable portion of the respective PM pollutants and condensable fraction of PM.
d. The SO_2 NSPS limits are potential based standard without add-on control device(s).
e. 40CFR63.11201 and Table 1 to Subpart JJJJJJ of Part 63 – Emission Limits, Row 3.

b. At all times and regardless of which emission point is that the boiler exhaust is released to the atmosphere through, the boiler shall not exhibit visible greater than ten (10) percent opacity based on a six-minute average.
[45 CSR §2-3.1. and 40CFR60.43b(f)]

c. Ozone season of oxides of nitrogen (NO_x) emissions from the boiler shall not exceed 38.0 tons per ozone season, which begins on May 1 of a calendar year and ends on September 30 of the same year. The permittee shall determine the monthly NO_x emission rates shall be in terms of tons per month as outline in 45CSR40-6-3.d. of each month of the ozone season. Such a determination shall be carried out no later than the 15th of every preceding month.
[45CSR§§40-2.18. and 5.1.]

d. Annual oxides of nitrogen (NO_x) emissions from the boiler shall not exceed 90.42 tons per year. This limit shall include CO emissions occurred during startup and shutdown events as well as normal operations. Compliance with this limit shall be determined by a rolling 12-month total of CO emissions. These monthly emission rates shall be in terms of tons per month. Such a determination shall be carried out no later than the 15th of every preceding month.

e. Annual carbon monoxide (CO) emissions from the boiler shall not exceed 45.65 tons per year. This limit shall include CO emissions occurred during startup and shutdown events as well as normal operations. Compliance with this limit shall be determined by a rolling 12-month total of CO emissions. These monthly emission rates shall be in terms of tons per month. Such a determination shall be carried out no later than the 15th of every preceding month.

f. Annual volatile organic compound (VOC) emissions from the boiler shall not exceed 18.33 tons per year. Compliance with this limit shall be determined by a rolling 12-month total of VOC emissions. These monthly VOC emission rates shall be in terms of tons per month using the best available emission data and actual operations data for the respective period. Such a determination shall be carried out no later than the 15th of every preceding month.

g. Annual particulate matter less than ten microns (PM_{10}) emissions from the boiler shall not exceed 67.83 tons per year. Compliance with this limit shall be determined by a rolling 12-month total of PM_{10} emission rate. These monthly PM_{10} emissions shall be in terms of tons per month using actual operational data. Such a determination shall be carried out no later than the 15th of every preceding month.

h. Annual sulfur dioxide emissions from the boiler shall not exceed 50.78 tons per year. Compliance with this limit shall be determined by a rolling 12-month total of sulfur dioxide emission rates. Such a determination shall be carried out no later than the 15th of every preceding

month. Such determinations shall utilize the fuel monitoring as required in Conditions 4.2.1. and 4.2.3.

i. Annual HAP emissions from the boiler regardless of which emission point the emission are released from shall not exceed 23.34 tons per year. No single HAP shall be emitted to the atmosphere at a rate greater than 10 tons per year. Compliance with this limit shall be determined by a rolling 12-month total of HAP emission rates. Such a determination shall be carried out no later than the 15th of every preceding month. Such determinations shall utilize the operating data from fuel monitoring, control device parameter monitoring, and unit operation as required in Conditions 4.2.1. and 4.2.3.

j. The permittee shall fire/operate the boiler with a maximum heat input that does not exceed 944 million (MM) Btu/hr on a daily average basis. The permittee shall only utilize clean cellulosic biomass as defined in 40CFR§241.2 or a combination of clean cellulosic biomass and natural gas with the input of natural gas physical limited to no greater than 180 MMBtu/hr at any given time to include startup operations. The annual heat input for the biomass boiler shall not exceed 8,269,440 MMBtu per any 12 consecutive month period.

k. The permittee shall minimize the duration of each startup event in a manner that the duration of no individual startup extends up to or beyond 10 hours. The startup event begins when the first instance fuel is input in the unit for combustion and ends once the SCR and/or oxidation catalyst reaches the minimum operating temperature.

l. The permittee shall minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If the manufacturer's recommended procedures are not available, the permittee shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available. You must submit a signed statement in the Notification of Compliance Status report that indicates that you conducted startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.
[40CFR§63.11223(g)]

m. The permittee shall conduct boiler tune-ups biannually (once every 25 months from the previous successful tune-up) on the biomass boiler. The initial boiler tune-up shall be conducted no later than 25 months after the initial startup of the biomass boiler. These tune-ups shall be conducted in accordance with the following requirements.
[40CFR§§63.11223(a), and (b)]

  i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.
  [40CFR§§63.11223(b)(1)]

  ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
  [40CFR§§63.11223(b)(2)]

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

[40CFR§§63.11223(b)(3)]

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
[40CFR§§63.11223(b)(4)]

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. These measurements must be made upstream of the oxidization catalyst.
[45CSR§§63.11223(b)(5)]

m. Steam generated by the Biomass Boiler shall not be used to generate electricity for sale.

n. The permittee shall operate the control devices in Conditions 4.1.2. through 4.1.6. at all time when the Biomass Boiler is in operation expect as stated in these conditions.

4.1.2. *Fabric Filter Control Device:* The permittee shall install and operate the following device in accordance with the following.

a. The permittee shall install, operate, and maintain a fabric filter bag house to control filterable PM emissions from the Biomass Boiler. The permittee shall maintain and operate this control device in a manner that the Bag Leak Detector system does not sound more than five (5) percent of the operating time during each six (6) month period.
[40CFR§63.11211(b)(4)]

b. Prior to commencing the installation of the bag leak detector system and before commissioning of the Biomass Boiler, the permittee shall develop a site-specific monitoring plan for the Bag Leak Detector System for the Director to approved. This plan shall describe the following items.

i. Installation of the bag leak detection system;
[40CFR§60.48Da(o)(4)(ii)(A), 40CFR§60.48b(j)(5)]

ii. Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;
[40CFR§60.48Da(o)(4)(ii)(B), 40CFR§60.48b(j)(5)]

iii. Operation of the bag leak detection system, including quality assurance procedures;
[40CFR§60.48Da(o)(4)(ii)(C), 40CFR§60.48b(j)(5)]

iv. How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;
[40CFR§60.48Da(o)(4)(ii)(D), 40CFR§60.48b(j)(5)]

v. How the bag leak detection system output will be recorded and stored; and
[40CFR§60.48Da(o)(4)(ii)(E), 40CFR§60.48b(j)(5)]

vi. Corrective action procedures as specified in paragraph (o)(4)(iii) of this section. In approving the site-specific monitoring plan, the permitting authority may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.
[40CFR§60.48Da(o)(4)(ii)(F), 40CFR§60.48b(j)(5)]

4.1.3. *SCR Control Device:* The permittee shall install and operate the following device in accordance with the following.

a. The permittee shall install, operate, and maintain an SCR system to control NO_X emissions. The SCR system consists of an ammonia (NH_3) injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping, and other ancillary equipment. The SCR system shall be designed, constructed, and operated to achieve either NO_x concentration of no greater than 18.07 corrected to zero (0) precent oxygen or a mass rate of 20.13 pound per hour with a concentration of ammonia (ammonia slip) of no greater than 3.65 ppm corrected to 0% oxygen on a 3-hour averaging period basis from the outlet of the SCR. As part of this SCR system, the permittee shall install an ammonia injection grid system such that injection of ammonia can be adjusted to account for the actual exhaust flow characteristics and a permanent sampling grid that covers the cross-sectional area of the SCR at the outlet of the SCR. The permittee shall conduct an ammonia injection grid tuning at least once per year to the parameters outline in this subparagraph. The permittee shall commence operating the SCR system once the inlet exhaust temperature to the SCR reaches 200ºF in a 15-minute block average during startup operations. During shutdown operations and the inlet exhaust temperature to the SCR falls below 200ºF, the permittee shall cease operation of the SCR system. During normal operations of the Biomass Boiler, the permittee shall operate the SCR system.

4.1.4. Requirements of the Oxidization Catalyst Control Device: The permittee shall install and operate the following device in accordance with the following requirements.

a. The permittee shall install, operate, and maintain an oxidation control device to control CO and VOC emissions from the biomass boiler. This oxidation control device shall consist of either an individual oxidation catalyst or a dual catalyst with the SCR and oxidation catalyst integrated into a single catalyst and monitoring system. The oxidation catalyst must be designed, installed, and maintained to reduce the CO in the exhaust from the biomass boiler down to 15.0 ppm corrected to zero (0) oxygen at full load conditions of the biomass boiler.

b. The permittee shall operate the catalyst with a bed temperature greater than 500ºF or at or above a temperature established through testing as required in Condition 4.3.3. Compliance with this operating limitation shall be based on 3-hour averages on a rolling basis. The bed temperature readings recorded during start-up and shutdown events as defined in Condition 4.1.3 shall not be used in determining the three-hour rolling average.

c. The differential pressure (pressure drop) across the catalyst shall be no greater than 2 inches of water column or as otherwise specified by the catalyst manufacturer.

d. The oxygen content of the inlet exhaust to the control device shall be no less than four (4.0) percent oxygen or above the minimum established operating limit through testing as required in Condition 4.3.3. Compliance with this operating limitation shall be based on 3-hour averages on a rolling basis.

e. The permittee shall conduct a visual inspection of the control device once every 12 months during a planned schedule outage.

f. The permittee shall wash or replace the catalyst in accordance with the manufacturer's guidance/recommendation intervals or develop and implement a means to determine when the catalyst is no longer capable of achieving the CO outlet concentration of 15 ppm at zero precent oxygen at full load conditions of the biomass boiler.

4.1.5. Requirements of the Dry Sorbent Injection Scrubber.

a. The injection point for the dry sorbent shall be upstream of the fabric filter bag house to allow sufficient time for the sorbent to react with the acid gases and precipitate in the fabric filter

baghouse with an exhaust temperature that will not exceed 500 °F at any time with the daily average temperature across operating modes that does not exceed 400°F.

b. During normal operations, the permittee shall inject dry sorbent into the biomass boiler's exhaust above the control device manufacturer's minimum recommended rate until an operating limit is established through performance testing as required in Condition 4.3.3. that demonstrates compliance with the HCl and H_2SO_4 mass based permitted limits as stated in Table 4.1.1.a. of this permit.

c. The permittee shall use sodium bicarbonate ($NaHCO_3$) as the sorbent at all times unless the Director approves a testing plan to demonstrate a different sorbent is or is more effective in removing the acid gases (e.g., HCl and H_2SO_4) as most recently demonstrated.

d. The permittee shall commence injection of the dry sorbent into the exhaust during startup events once the clean cellulous biomass fuel has been fed into the biomass boiler and the exhaust temperature at the injection point is above 250°F.

e. During shutdown operations, the permittee shall continue to inject the dry sorbent into the exhaust during shutdown until the temperature inside the fabric filter baghouse is below 250°F.

4.1.6. *Requirements of the Wet Scrubber:* The permittee shall install and operate the following device in accordance with the following.

a. The permittee shall initially operate the wet scrubber with a circulation rate of no less than 16.85 gpm of solution until the permittee can establish the minimum scrubber solution circulation rate through performance testing as required in Condition 4.3.3

b. The daily average pH of the scrubbing solution shall be maintained to no less than 12.2 or the minimum pH operating limit established through performance testing as required in Condition 4.3.3. at all times during operation. pH shall be measured using a calibrated pH meter in accordance with EPA Method 150.1.

c. The permittee shall operate and maintain the wet scrubber at or above the established minimum pressure drop across the wet scrubber. Until the minimum pressure drop across can be established, the permittee shall operate and maintain the pressure drop across the wet scrubber within the manufacturer's recommended operating range.

4.1.7. *Requirements for the Carbon Capture Unit:* The permittee shall install and operate the Carbon Capture Unit in accordance with the following.

a. The permittee shall not operate the carbon capture unit with a lean amine circulation rate above the established maximum circulation rate of lean amine with an established maximum concentration of amine.

b. The maximum amine solvent loss rate from the unit through emission point 122-T-1001 shall not exceed 0.48 pound per hour.

c. The actual operation of the Carbon Capture Unit shall be limited to 7,937 hours per year on a 12-month rolling total.

4.1.8. *Requirements for the Other Support Units for the Carbon Capture System:* The permittee shall install and operate the CO_2 compressors, and CO_2 dehydration unit in accordance with the following.

a. The combined release of sulfur dioxide (SO_2) from the compressor blowdowns, dehydration unit flash tank vent (if equip), regenerator still vent and emission point 121-H-2001 shall not exceed the SO_2 limit in Table 4.1.1.a. on a 3-hour average basis.

b. The source of the heat duty required by the reboiler for the carbon capture and the CO_2 dehydration units shall be provide from steam generated by the Biomass Boiler or electricity.

c. The driver of the CO_2 compressors shall be electric motors.

d. The piping process, which includes connectors, compressors, pumps, values, shall be free of leaks and defects. Any detected leaking equipment shall be repaired in 15 days of detection of the leak or defect with the first attempt at a repair within 5 days of detection.

e. Any open ended line shall be either blind flange or double block with a bleeder valve at all times when not in use.

4.1.9. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10.]

4.2. Monitoring Requirements

4.2.1. Continuous Emission Monitors (CEMS): The permittee shall install, calibrate, operate, and maintain CEMS to measure and record the emissions of NO_X, in terms of the applicable limitations in this permit, the diluent gas (O_2 or CO_2), gaseous (natural gas) fuel flow, and exhaust flow. The monitoring system shall be installed and functions within the required performance specifications prior to the initial compliance demonstration. The location of the NO_x and diluent monitor shall be at location to measure all NOx emissions generated from the Biomass Boiler regardless of which emission point is released to the atmosphere or the permittee shall install and certify a CEMs for each emission point.
[40CFR60.48b(e)]

a. The CEMs shall be subject to the provision of performance specification for continuous monitoring systems under appendix B of 40CFR60 and the quality assurance procedures of appendix F of 40CFR60.
[40CFR§60.13]

b. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under paragraph (d) of this condition, all continuous monitoring systems shall be in continuous operation and shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. The annual and required RATA tests required for the NO_X monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60. The relative accuracy test audit (RATA) of the CEMS shall be performed on a lb/MMBtu basis. The NO_x monitor and diluent monitor shall be in a suitable location that meets PS 2. The monitor

[40CFR§§60.13(e), (e)(2), and §60.48b(b)(1)]

c. Diluent Monitor: The oxygen (O_2) or carbon dioxide (CO_2) content of the flue gas shall be monitored at the location where NO_X is monitored to correct the measured emissions rates. If a CO_2 monitor is installed, the O_2 content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired.

d. The permittee shall install, calibrate, maintain, and operate a fuel flow meter (or meters) to continuously measure the amount of natural gas induced into the boiler. Such fuel flow meters shall be at least calibrated once per every 12 months or as recommended by the instrument manufacturer, which is more frequent, in accordance with the manufacturer's written procedure. **[40CFR60.13(b)]**

e. The permittee install, calibrate, maintain, and operate an exhaust flow meter (or meters) to continuously measure the amount of natural gas induced into the boiler. Such fuel flow meters shall be at least calibrated once per every 12 months or as recommended by the instrument manufacturer, which is more frequent, in accordance with the manufacturer's written procedure. **[40CFR60.13(b)]**

f. The permittee shall install, calibrate, maintain, and operate a watt meter (or meters) to continuously measure the gross electrical output of the generator in megawatt-hours. These measurements must be performed using 0.2 class electricity metering instrumentation and calibration procedures as specified under ANSI Standards No. C12.20 (incorporated by reference, see §60.17).

g. Each steam flow meter, and each pressure or temperature measurement device shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. **[40CFR60.13(b)]**

h. Performance evaluations and certification tests of the NO_x and dilutant monitor(s); gaseous fuel, exhaust, and steam flow meters; and wattage meters shall be conducted in accordance with applicability requirements. Two copies of the performance evaluations report shall be submitted to the Administrator and Director within 60 days of completion of the evaluation in accordance with Conditions 3.5.3. and 4.5.2. **[40CFR§§60.13(c) and (c)(2)]**

i. The permittee shall develop and keep on-site a quality assurance (QA) plan for all the continuous monitoring equipment described in this condition.

j. The CEMS required under this condition shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. **[40CFR§60.48b(c)]**

k. The 1-hour average NO_X emission rates measured by the continuous NO_X monitor required by this condition and required under 40CFR§60.13(h) shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under 40CFR§60.44b. The 1-hour averages shall be calculated using the data points required under 40CFR§60.13(h)(2). **[40CFR§60.48b(d)]**

l. The permittee of a CEMS installed in accordance with the provisions of 40CFR60, shall check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once each operating day in accordance with a written procedure. The zero and span must, at a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable

performance specification in appendix B of 40CFR60. The system must allow the amount of the excess zero and span drift to be recorded and quantified whenever specified.
[40CFR60.13(d)(1)]

m. When NO_X emission data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 of appendix A of 40CFR60, Method 7A of appendix A of 40CFR60, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days.
[40CFR60.48b(f)]

n. Records of the measurements, readings, repairs, calibration checks, zero and span adjustment shall be maintained in accordance with Condition 3.4.1.

4.2.1.1. After completion of the initial performance test for NOx as requirement in Condition 4.3.1. or is required to be completed as required in Condition 4.3.1.,whichever date comes first, the permittee shall determine compliance with the NO_X standards under 40CFR§60.44b on a continuous basis through the use of a 30-day rolling average emission rate. A new 30-day rolling average emission rate is calculated each steam generating unit operating day as the average of all of the hourly NO_X emission data for the preceding 30 steam generating unit operating days.
[40CFR§60.46b(e)(3)]

4.2.2. To demonstrate compliance based on fuel analysis in 40CFR§60.42b shall develop and submit a site-specific fuel analysis plan to the Administrator and Director for review and approval no later than 60 days before the date that the permittee intend to demonstrate compliance. Each fuel analysis plan shall include a minimum initial requirement of weekly testing, and each analysis report shall contain, at a minimum, the following information:
[40CFR§60.49b(r)]

a. The potential sulfur emissions rate of the representative fuel mixture in ng/J heat input;
[40CFR§60.49b(r)(2)(i)]

b. The method used to determine the potential sulfur emissions rate of each constituent of the fuel mixture. For natural gas a fuel receipt or tariff sheet is acceptable;
[40CFR§60.49b(r)(2)(ii)]

c. The ratio of different fuels in the mixture;
[40CFR§60.49b(r)(2)(iii)]

d. How the actual dry F factor of combustion less water of each representative sample of clean biomass cellulosic fuel in accordance with EPA Method 19 in terms of scf/MMBtu will be determine;

e. The process to determine if the Method 19 default dry F factor of combustion is representative of the actual dry F factor of the clean cellulosic biomass fuel sample; and

f. Identify all methods used in conducting the analysts and any pretreatment of the sample.

Such records shall be maintained in accordance with Condition 3.4.1. of this permit.

4.2.3. The permittee shall monitor visible emissions from the biomass boiler at either emission point 121-PKG-3001 or emission point 122-T-1001 as outline in this condition if the maximum 6-minute opacity was less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test or conduction visible emission test as outline in Condition 4.3.6.
[40CFR§§60.48b(a), (a)(2), 45CSR2-8.2.1.]

The permittee shall monitor visible emissions from the emission point that was utilized most of the operating time during the previous reporting period. Such observation shall be conducted in with U.S. EPA Method 9 of appendix A-4 of 40CFR60 and the following subparagraphs of this condition.

a. The permittee shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.*, 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.*, 90 seconds per 30 minute period), the permittee shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.*, 90 seconds) or conduct a new Method 9 of appendix A-4 of 40CFR60 performance test using the procedures in Condition 4.3.. within 45 calendar days according to the requirements in 40CFR§60.46d(d)(7).
[40CFR§60.48b(a)(2)(i) and 45CSR§2-8.2.1.]

b. If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.
[40CFR§60.48b(a)(2)(ii) and 45CSR§2-8.2.1.]

Records of such monitoring shall be maintained in accordance with Condition 3.4.1. of the following information:

(i) Dates and time intervals of all visible emissions observation periods;
[40CFR§60.49b(f)(2)(i) and 45CSR§2-8.3.1.]

(ii) Name and affiliation for each visible emission observer participating in the observation;
[40CFR§60.49b(f)(2)(ii) and 45CSR§2-8.3.1.]

(iii) Copies of all visible emission observer opacity field data sheets; and
[40CFR§60.49b(f)(2)(iii) and 45CSR§2-8.3.1.]

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the permittee to demonstrate compliance with the applicable monitoring requirements.
[40CFR§60.49b(f)(2)(iv) and 45CSR§2-8.3.1.]

4.2.4. The permittee shall install, maintain, calibrate, and continuously operate a bag leak detection system that monitors the fabric filter bag house in accordance with the following requirements:
[40CFR§60.48b(j)(5) and 40CFR§63.11224(f)]

a. The permittee must install and operate a bag leak detection system for each exhaust stack of the fabric filter control device.
[40CFR§60.48Da(o)(4)(i)(G), §60.48b(j)(5) and 40CFR§63.11224(f)(1)]

b. Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with EPA-454/R-98-015 (incorporated by reference, see 40CFR§ 63.14).

c. The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligrams per actual cubic meter (0.00044 grains per actual cubic foot) or less.
[40CFR60.48Da(o)(4)(i)(B), 60.48b(j)(5) and 40CFR63.11224(f)(3)]

d. The bag leak detection system sensor must provide output of relative particulate matter loadings.
[40CFR§60.48Da(o)(4)(i)(B), §60.48b(j)(5) and 40CFR§63.11224(f)(4)]

e. The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. The permittee must continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger.)
[40CFR§60.48Da(o)(4)(i)(B), §60.48b(j)(5) and 40CFR§63.11224(f)(5)]

f. The bag leak detection system must be equipped with an audible or visual alarm system that will activate automatically when an increase in relative particulate matter emissions over a preset level that was established according to is detected. The alarm must be located where it is easily heard or seen by plant operating personnel.
[40CFR§60.48Da(o)(4)(i)(C), §60.48b(j)(5) and 40CFR§63.11224(f)(6)]

g. In the initial adjustment of the bag leak detection system, the permittee must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.
[40CFR§60.48Da(o)(4)(i)(D), §60.48b(j)(5)]

h. Following initial adjustment, the permittee must not adjust the averaging period, alarm set point, or alarm delay time without approval from the Director except as provided in paragraph g of this condition.
[40CFR§60.48Da(o)(4)(i)(E), §60.48b(j)(5)]

i. Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.
[40CFR§60.48Da(o)(4)(i)(H), §60.48b(j)(5) and 40CFR§63.11224(f)(8)]

j. The permittee shall initiate corrective action within 1 hour of a bag leak detection system alarm. The permittee shall keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. The permittee shall also record the percentage of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm is counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time is counted as the actual amount of time taken to initiate corrective action.
[40CFR§60.48Da(o)(4)(iii), §60.48b(j)(5), 40CFR§63.11222(a)(4), and 45CSR§2-8.2.1., 45CSR§§2A-7.2.c.3.A. through 7.2.c.3.D.]

k. For every instance that bag leak detection system alarm, the permittee shall conduct a Method 9 observation for at least 6-minutes of the respective emission point in service within 48-hours of respective alarm event for the purpose of verifying compliance with standard in Condition 4.1.1.b. Records of the observation(s) shall be recorded to contain the following information and maintained in accordance with Condition 3.4.1.
[45CSR§2-8.2.]

   i. Dates and time intervals of all visible emissions observation periods;

ii. Name and affiliation for each visible emission observer participating in the performance test;

iii. Copies of all visible emission observer opacity field data sheets; and

iv. Documentation of any adjustments made and the time the adjustments were completed to the operation of the Biomass Boiler and/or any associated control device(s) by the permittee to demonstrate compliance with the applicable monitoring requirements.

4.2.5. The permittee shall continuously monitor the flow rate of ammonia injected into the SCR on an hourly basis using a flow meter and determine a 3-hour rolling average. Records of readings, instrument calibrations, and instrument maintained in accordance with Condition 3.4.1.

4.2.6. *Oxidization Catalyst Monitoring:* The permittee shall monitor the following parameters of the oxidization catalyst control device according to the stated frequency.

a. Inlet and outlet oxygen content on a continuous basis.

b. Catalyst bed temperature on a continuous basis

c. Differential pressure (pressure drop) across the control device on a continuous basis.

d. Sample the catalyst based on catalyst manufacturer's recommended intervals and determine the activity of the catalyst for CO and VOCs.

Continuous monitoring in this condition shall mean a reading taken in least four equal intervals of each operating hour, these readings shall be used to develop an hourly average and 3-hour average. The permittee shall determine if any 3-hour average parameter is outside of the established operating limit. The permittee shall maintain records of all hourly averages, a 3-hour average, and all occurrences a 3-hour average was outside of the established operating limit in accordance with Condition 3.4.1. parameter record all instances when the temperature was outside of the acceptable range as stated in Condition 4.1.4. Such records shall be maintained in accordance with Condition 3.4.1.

4.2.7. *DSI Monitoring:* The permittee shall install, maintain, calibrate, and continuously operate instruments measuring the identified parameter(s) in Conditions 4.1.5. These instruments shall at the minimum take four (4) readings in an hour in equal time intervals (once every 15 minutes), these readings shall be average used to create an hourly value and every 3 consecutive hourly values shall be used to create a 3-hour average. The permittee shall identify every 3-hour average that exceeds either the interim limit or once the operating limit has been established as required in Condition 4.3.3. Records of the readings, hourly values, 3-hour averages, periods of exceedances, maintained preformed on the instrument(s), and calibrates shall be maintained in accordance with Condition 3.4.1.

4.2.8. *Wet Scrubber Monitoring:* The permittee shall install, maintain, calibrate, and continuously operate instruments measuring the identified parameter(s) in Conditions 4.1.6. These instruments shall at the minimum take four (4) readings in an hour in equal time intervals (once every 15 minutes), these readings shall be average used to create an hourly value and every 3 consecutive hourly values shall be used to create a 3-hour average. The permittee shall identify every 3-hour average that exceeds either the interim limit or once the operating limit has been established as required in Condition 4.3.3. Records of the readings, hourly values, 3-hour averages, periods of exceedances, maintained preformed on the instrument(s), and calibrates shall be maintained in accordance with Condition 3.4.1.

4.2.9. *Carbon Capture Unit Monitoring:* The permittee shall install, maintain, calibrate, and continuously operate instruments measuring the identified parameter(s) in Conditions 4.1.7. These instruments shall at the minimum take four (4) readings in an hour in equal time intervals (once every 15 minutes), these readings shall be average used to create an hourly value and every 3 consecutive hourly values shall be used to create a 3-hour average. The permittee shall identify every 3-hour average that exceeds either the interim limit or once the operating limit has been established as required in Condition 4.3.3. Records of the readings, hourly values, 3-hour averages, periods of exceedances, maintained preformed on the instrument(s), and calibrates shall be maintained in accordance with Condition 3.4.1.

4.2.10. The permittee shall keep records of the amount fresh of amine fed into the carbon capture unit and amount of spent amine drain out of the carbon capture unit for each operating month by type of amine (e.g., MDEA, MEA, etc.). Such records shall be maintained in accordance with Condition 3.4.1.

4.2.11. *Monitoring Other Support Units for the Carbon Capture Unit:* The permittee shall install, maintain, calibrate, and continuously operate instruments measuring the identified parameter(s) in Conditions 4.1.8. These instruments shall at the minimum take four (4) readings in an hour in equal time intervals (once every 15 minutes), these readings shall be average used to create an hourly value and every 3 consecutive hourly values shall be used to create a 3-hour average. The permittee shall identify every 3-hour average that exceeds either the interim limit or once the operating limit has been established as required in Condition 4.3.7. Records of the readings, hourly values, 3-hour averages, periods of exceedances, maintained preformed on the instrument(s), and calibrates shall be maintained in accordance with Condition 3.4.1.

4.2.12. When 60 days after the initial startup of the carbon capture unit and once every 12 months thereafter, the permittee shall develop and execute a process simulation of the Carbon Capture Unit with CO_2 compressors and dehydration units to predict the SO_2 and VOC emissions release to the atmosphere from these emission sources. The initial simulation shall be used to establish the operating parameter(s) of the Carbon Capture Unit at maximum design parameters or operating condition. The annual simulation shall be executed using the average of the monitored parameters (e.g., average CO_2 capture rate, temperature and pressures of key process steams, amine concentrations, etc.).

4.2.13. The permittee shall install, maintain, calibrate, and operate instruments measuring the identified parameters in Conditions 4.1.3. through 4.1.7. These instruments shall at the minimum take four (4) readings in an hour in equal time intervals (once every 15 minutes), these readings shall be average used to create an hourly value and every 3 consecutive hourly values shall be used to create a 3-hour average. The permittee shall identify every 3-hour average that exceeds either the interim limit or once the operating limit has been established as required in Condition 4.3.3. Records of the readings, hourly values, 3-hour averages, periods of exceedances, maintained preformed on the instrument(s), and calibrates shall be maintained in accordance with Condition 3.4.1.

4.2.14. The permittee shall install, maintain, calibrate, and continuously operate an instrument that indicates whether the exhaust flow is being directed to the carbon capture unit and released through 121-PKG-3001 to the atmosphere or bypassed carbon capture unit and released through Emission Point 122-T-1001. Such an instrument shall be calibrated at least once per year in accordance with the manufacturer's written procedures.

4.3. Testing Requirements

4.3.1. The initial performance test for Biomass Boiler with the Subparts Db and JJJJJJ standards listed in Table 4.1.1.a. of this permit shall be conducted within 60 days of the unit achieving the maximum production rate at which the affected unit will be operated, but not later than 180 days after the initial startup of the emission unit (Biomass Boiler) in accordance with the following requirements. **[40CFR§60.8(a), §60.46b(b), §60.46b(d), and 40CFR§§63.11212(a)]**

Paragraph a. applies to NO_x; paragraphs b. through g. applies to PM and paragraph h. applies to opacity.

a. Conduct the performance test as required under 40CFR§60.8 using the continuous system for monitoring NO_X under 40CFR§60.48(b). NO_X from the Biomass Boiler are monitored for 30 successive steam generating unit operating days and the 30-day average emission rate is used to determine compliance with the NO_X emission standards under 40CFR§60.44b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.
[40CFR§60.46b(e)]

b. Method 3A or 3B of appendix A-2 of this part is used for gas analysis when applying Method 5 of appendix A-3 of this part or Method 17 of appendix A-6 of this part.
[40CFR§60.46b(d)(1)]

c. Method 5, 5B, or 17 of appendix A of 40CFR60 shall be used to measure the concentration of PM as follows:
[40CFR§60.46b(d)(2)]

i. Method 17 of appendix A-6 of this part may be used at facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of sections 8.1 and 11.1 of Method 5B of appendix A-3 of this part may be used in Method 17 of appendix A-6 of 40CFR60 only if it is used after a wet FGD system. Do not use Method 17 of appendix A-6 of this part after wet FGD systems if the effluent is saturated or laden with water droplets.
[40CFR§60.46b(d)(2)(i)]

ii. Method 5B of appendix A of 40CFR60 is to be used only after wet FGD systems.
[40CFR§60.46b(d)(2)(iii)]

d. Method 1 of appendix A of 40CFR60 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.
[40 CFR§60.46b(d)(3)]

e. For Method 5 of appendix A of 40CFR60, the temperature of the sample gas in the probe and filter holder is monitored and is maintained at 160±14 °C (320±25 °F).
[40 CFR§60.46b(d)(4)]

f. For determination of PM emissions, the oxygen (O_2) or CO_2 sample is obtained simultaneously with each run of Method 5B, or 17 of appendix A of 40CFR60 by traversing the duct at the same sampling location.
[40 CFR§60.46b(d)(5)]

g. For each run using Method 5B, or 17 of appendix A of 40CFR60, the emission rate expressed in ng/J heat input is determined using:
[40 CFR§60.46b(d)(6)]

i. The O_2 or CO_2 measurements and PM measurements obtained under this section;
[40 CFR§60.46b(d)(6)(i)]

ii. The dry basis F factor; and
[40 CFR§60.46b(d)(6)(ii)]

iii. The dry basis emission rate calculation procedure contained in Method 19 of appendix A of 40CFR60.
[40 CFR§60.46b(d)(6)(iii)]

h. Method 9 of appendix A of 40CFR60 is used for determining the opacity of stack emissions.
[40CFR§60.46b(d)(7)]

i. All emissions testing shall be conducted in accordance with Condition 3.4.1.

4.3.2. For the purposes of demonstrating compliance with the PM_{10}, and $PM_{2.5}$ limits in Condition 4.1.1.a., the permittee shall conduct an initial performance test within 180 days after initial start-up of the biomass boiler. Such testing shall be conducted in accordance with Condition 3.3.1. and U.S. EPA Test Method 201 or 201A to be used to measure the "front half" and Method 202 to be used to measure the "back-half" of the particulate matter. This testing shall consist of three runs of two hours for each run. Records of such testing shall be maintained in accordance with Condition 3.4.1.

Such tests shall be conducted with the unit operating at no less than 90% of the unit's maximum design heat input. The permittee shall conduct visible emission observations during each test run using EPA Method 9 to demonstrate compliance with Condition 4.1.1.b.

4.3.3. For the purpose to demonstrate compliance with the CO, SO_2, HCl, H_2SO_4, VOCs, and Total Organic HAPs limits and established operating limits as required in Conditions 4.1.3., 4.1.4., 4.1.5. 4.1.6., and 4.1.7., the permittee shall conduct an initial performance test within 180 days of the initial startup of the Biomass Boiler and after completion of the NO_x CEM performance demonstration. Such testing shall be conducted in accordance with Condition 3.3.1. and testing methods approved by the Director.

The permittee shall develop a testing plan (protocol) to establish operating limits as outlined in Conditions 4.1.3. 4.1.4., 4.1.5., 4.1.6. and 4.1.7. in accordance with the following.

a. The plan must outline how the testing will be conducted and method(s) used.

b. Identify the load(s) and operating conditions at which the unit and control devices will be operated at. If different operating limits are to be established for different load rates, the plan must identify these different load conditions and what parameters will be adjusted.

c. Identify the Parameters to be monitored and frequency that the readings will be recorded.

d. Identify sample prob location(s).

e. Explain how the raw data (readings) of monitored parameters will be handled and used to determine the established operating limit.

f. While conducting the testing, the interim or established operating limits in Conditions 4.1.3., 4.1.4., 4.1.5., 4.1.6., 4.1.7. shall not be in effect. The permittee shall not exceed any mass base limit for any of these pollutants on during any 3-hour average at the respective operating load.

g. The permittee shall include the NO_x CEM data for each test run in the final report.

h. The testing shall demonstrate compliance upstream and downstream of the capture unit with respect to the mass emission rate limits in Table 4.1.1.a.

The permittee shall conduct testing of no less than three different operating loads using U.S. EPA Method 320, Method 3A for O_2, and Method 25A for total VOCs. When using Method 320, the permittee shall measure the following pollutants.

Table 4.3.3. Method 320 Pollutants		
Criteria Pollutants	Hazardous Air Pollutants[1]	Other Pollutants
Carbon Monoxide (CO)	1,1,1-Trichloroethane – VOC	Carbon Dioxide (CO_2)
Sulfur Dioxide (SO_2)	1,2-Dichoroethane – VOC	Methane (CH_4)[2]
	1,2-Dichoropropane – VOC	Ethane (C_2H_6)[2]
	Acetaldehyde – VOC	Sulfuric Acid (H2SO4)
	Acrolein – VOC	
	Benzene – VOC	
	Carbon Tetrachloride – VOC	
	Chlorobenzene – VOC	
	Chloroform - VOC	
	Chloromethane - VOC	
	Dichloromethane - VOC	
	Ethylbenzene - VOC	
	Formaldehyde – VOC	
	Hydrogen Chloride (HCl)	
	Naphthalene- VOC	
	Phenol – VOC	
	Propanal (propionaldehyde)-VOC	
	Styrene - VOC	
	Tetrachloroethene – VOC	
	Toluene – VOC	
	Trichloroethene - VOC	
	n-Xylene – VOC	
	p-Xylene – VOC	
	o-Xylene – VOC	

1. HAPs shall be reported individually and summed together as total HAPs.

2. For Total VOCs, the measure rate of methane and ethane shall be deduced from the total measure rate from the Method 25A to determine the VOC rate.

Records of such testing shall be maintained in accordance with Condition 3.4.1. A copy of the current established operating limits shall be maintained on site with the date the limit was established.

4.3.4. Once every 5 years (61 months) from the data that operating limits were established or five years (61 months) from the most recent verification demonstration, the permittee shall verify the compliance with the mass emission limits Table 4.1.1.a. for the pollutants identify in Condition 4.3.3. and corresponding established operating limits. Such testing shall be conducted as outlined in Condition 4.3.3. expect that only Biomass Boiler only needs to be operating at the load that yielded the highest emission hourly emission rate from the test that was used to develop the current operating limits. Records of such testing shall be maintained in accordance with Condition 3.4.1.

4.3.5. If after any period composed of 30 boiler operating days during which the alarm rate of the Bag Leak Detector for the Biomass Boiler exceeds 5 percent of the process operating time (excluding control device or process startup, shutdown, and malfunction), then the permittee shall conduct a new PM performance test according to Condition 4.3.1. This new performance test must be conducted within 60 calendar days of the date that the alarm rate was first determined to exceed 5 percent limit unless a waiver is granted by the Director.
[40CFR§60Da(o)(4)(v) and §60.48b(j)(5)]

4.3.6. The permittee shall conduct subsequent PM performance tests to demonstrate compliance with the PM limits in Table 4.1.1.a. in account with the frequent cycle outline in 45CSR§2A-6. Such subsequent PM test shall be conducted as prescribed in Condition 4.1.1. and in accordance with Condition 3.3.1. Records of such testing shall be maintained in accordance with Condition 3.4.1.
[45CSR§2-8.2.1. and 45CSR§2A-5.2.a.]

4.3.6. If the permittee elects not to conduct visible emission monitoring as outlined in Condition 4.2.3., then the permittee shall conduct subsequent visible emission tests to demonstrate compliance with standard in Condition 4.1.1.b. in accordance with the following:

a. If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;
[40CFR§60.48b(a)(1)(i)]

b. If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;
[40CFR§60.48b(a)(1)(ii)]

c. If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or
[40CFR§60.48b(a)(1)(iii)]

d. If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
[40CFR§60.48b(a)(1)(iv)]

e. Records of such Method 9 of appendix A-4 of 40CFR60 tests shall include the following information and be maintained in accordance with Condition 4.3.1.
[40CFR§60.49b(f)(1)]

i. Dates and time intervals of all opacity observation periods;
[40CFR§60.49b(f)(1)(i)]

ii. Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
[40CFR§60.49b(f)(1)(ii)]

iii. Copies of all visible emission observer opacity field data sheets;
[40CFR§60.49b(f)(1)(iii)]

4.3.7. The permittee shall develop and execute a process simulator to predict SO_2 emissions losses from the support equipment of the Carbon Capture Unit (e.g., separator drains, flash tank vent, dehydration still vent, etc.) to demonstrate compliance with Condition 4.1.8.a., identify parameter to monitor, and establish operating limits/range as necessary. The permittee shall conduct this predictive modeling within 6 months after conducting the initial compliance demonstration as required in Condition 4.3.3. Records of such predictive modeling shall be maintained in accordance with Condition 3.4.1. The permittee shall submit a report, model used with justification of the selected model, identify all given imputed into the model, results of the predictive analysis, and established operating parameter limits.

4.4. Recordkeeping Requirements

4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.4.4. The reporting period throughout this permit shall be defined as January 1 through June 30 and July 1 through December 31 except when defined in an individual condition or the Ozone Season. The Ozone Season begins on May 1 of a calendar year and ends on September 30 of the same year. **[40CFR§60.49b(w)]**

4.4.4. The permittee shall record and maintain the following information in accordance with Condition 3.41.:

a. Calendar date;
[40CFR§60.49b(g)(1)]

b. The average hourly NO_X emission rates (expressed as NO_2) (ng/J or lb/MMBtu heat input) measured or predicted;
[40CFR§60.49b(g)(2)]

c. The 30-day average NO_X emission rates (ng/J or lb/MMBtu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days;
[40CFR§60.49b(g)(3)]

d. Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards under 40CFR§60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken;
[40CFR§60.49b(g)(4)]

e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken;
[40CFR§60.49b(g)(5)]

f. Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
[40CFR§60.49b(g)(6)]

g. Identification of “F” factor used for calculations, method of determination, and type of fuel combusted;

[40CFR§60.49b(g)(7)]

h. Identification of the times when the pollutant concentration exceeded full span of the CEMS; **[40CFR§60.49b(g)(8)]**

i. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3; and **[40CFR§60.49b(g)(9)]**

j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part. **[40CFR§60.49b(g)(10)]**

4.4.5. The permittee shall maintain records of the type and amount of all fuels burned in the biomass boiler during each operating day. The amount of fuel burned shall be in terms of MMBtus by type of fuel per operating day. The permittee shall calculate the annual capacity factor individually for clean cellulosic biomass, and natural gas for the reporting period. Such records shall be maintained in accordance with Condition 3.4.1. **[40CFR§60.49b(d)(1), 40CFR§63.11222(a)(1), 45CSR§2-8.3.2., and 45CSR§10-8.2.3.c.]**

4.4.6. The permittee shall maintain the following records in accordance with Condition 3.4.1. of the boiler tune-ups performed on the biomass boiler.

a. Date/time the tune-up was performed.

b. Name of individual overseeing/supervising the tune-up.

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

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

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

4.4.7. At the end of each Ozone Season, The permittee shall determine the total NOx mass emission for the respective Ozone Season, in tons, by summing the amount of the total monthly NO_x mass emissions calculated in Condition 4.1.1.d.

4.4.8. The permittee shall determine the monthly emission rate of each pollutant list in Condition 4.1.1. with an annual emission limit and the 12 consecutive monthly total (12-month rolling total) by the 15th of the following month. Such records shall be maintained in accordance with Condition 3.4.1.

4.5. Notification Requirements

4.5.1. The permittee shall prepare and submit an excess emission report on a semi-annual basis to the Director and Administrator for NOx emissions from the Biomass Boiler as required by Subpart Db of 40 CFR 60. The initial compliance period is from initial startup up of the unit to either December 31 or June 30 whichever date comes first. Subsequent reporting periods shall be every six months thereafter (e.g., January 1 to June 30, July 1 to December 31). Reports must be submitted no later than the 30th day following the end of the reporting period. Each report must contain the following information that occurred within the respective reporting period. Each submission shall be conducted in accordance with Condition 3.5.3.

[40CFR§60.7(c), §§60.49b(g) and (i)]

Excess Emissions of sulfur dioxide emissions shall mean the total sulfur content of the fuel being combusted in by the Biomass Boiler exceeds the limit specified in 40 CFR §60.44b(k)(2) ((See Table 4.1.1.a of Condition 4.1.1.a. SO_2 limit for Subpart Db).
[40CFR§60.49b(j)]

Excess Emissions of NO_x means a specified averaging period over which the NO_x emissions are higher than the applicable emission limit in 40 CFR 60.44b (See Table 4.1.1.a. of Condition 4.1.1.a. NOx limit for Subpart Db).
[40CFR§60.49b(g)]

Such reports shall contain the information required in Condition 4.4.4. during the respective reporting period.
[40CFR§60.7(c), §60.49b(i)]

The magnitude of excess emissions computed in accordance with 40 CFR §60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each period of excess emissions. The process operating time during the reporting period.
[40CFR§60.7(c)(1)]

Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken, or preventative measures adopted.
[40CFR§60.7(c)(2)]

The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
[40CFR§60.7(c)(3)]

When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
[40CFR§60.7(c)(4)]

The summary report form shall contain the information and be in the format shown in Attachment A of the permit unless otherwise specified by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility.
[40CFR§60.7(d)]

If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report form shall be submitted, and the excess emission report described in 40 CFR §60.7(c) need not be submitted unless requested by the Administrator.
[40CFR§60.7(d)(1)]

If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in 40 CFR §60.7(c) shall both be submitted.
[40CFR§60.7(d)(2)]

The permittee shall maintain records of each submission in accordance with Condition 3.4.1.

4.5.2. The permittee shall submit to the Director and Administrator the performance test data from the initial performance test as required in Condition 4.3.1. and the performance evaluation of the CEMS

using the applicable performance specifications in appendix B of 40CFR60 as required in Condition 4.2.1. Such submissions shall be made in accordance with Condition 3.5.3. and within 60 days of completion of the respective test or evaluation.
[40CFR§§60.13(c), (c)(2) and §60.49b(b)]

4.5.3. The permittee shall report any exceedances of the requirements in Section 4.1. to the Director within 10 days of the exceedance in accordance with Condition 3.5.3.

5.0. Specific Requirements for Biomass Fuel Handling Equipment

5.1. Limitations and Standards

5.1.1 The permittee shall minizine fugitive PM emissions from the fuel handling equipment using fugitive particulate meet control system in accordance with the following requirements. **[45CSR§2-5.1.]**

a. The two biomass receiving hoppers, which are identified as 121-LS-1001 and 121-LS-1002, (truck unloading hoppers) shall be operated in slight negative pressure to entrain fugitive PM generated during the unloading process with the captured effluent routed to control device 121-PKG-1001. This control device shall be installed and maintained with a removal efficiency that reduced the discharge of PM down to 0.01 grains per cubic feet of exhaust flow. The emissions from Emission Point 121-LS-1001 shall not exceed the following limits.

i. PM emission shall not exceed 1.08 pounds per hour on a 3-hour average.

ii. PM_{10} emission shall not exceed 1.08 pounds per hour on a 3-hour average basis.

iii. No visible emissions shall be exhibited for the emission point from each receiving hopper.

b. The equipment used to handle and convey the biomass fuel at the facility shall be installed, operated, and maintained in accordance with the following requirements.

i. The maximum hourly transfer rate of biomass fuel shall not exceed 106.07 tons per hour.

ii. The annual transfer rate of biomass fuel at the facility shall not exceed 929,147 tons during any 12-month consecutive period.

iii. All conveyors used to transport biomass fuel shall be either equipped with covers or located within an enclosed structure when the conveyor is in service.

c. Storage area or structures at the facility used to store biomass fuel shall be installed, operated, and maintained in accordance with the following requirements.

i. The open stockpile, which is identified as CHIP-2, shall not contain more than 71,265.6 klbs (1000 lbs) or 35,632.8 tons of biomass at any given time.

ii. The permittee shall apply water or dust suppressant on the open stockpile as necessary to minimize visible emissions from being exhibited from the open stockpile (CHIP-2).

iii. The open stockpile shall be constructed on a solid surface.

iv. Each of the Biomass Fuel Mettering Bins (Bins A and B) shall be partially enclosed.

5.1.2. All haul roads on plant control grounds shall be paved and maintained in a manner that minimize the release of fugitive emissions from haul roads at the facility.

5.1.3. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in

this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10.]

5.2. Monitoring Requirements

5.2.1. The permittee shall conduct visible emission observations using EPA Method 22 with an observation duration of no less than 120 seconds of the following emission points once per month.

Table 5.2.1. –Fuel Handling Emission Points

Description of Source	Emission Point ID No.
Fuel Receiving Hopper 121-LS-1001	121-PKG-1001
Fuel Receiving Hopper 121-LS-1002	

Should any visible emissions be observed during this check, the permittee shall evaluate the operation of the observed source and make all necessary repairs to restore the operation to no visible emissions as soon as practicable, but within five (days) of the visual emission check. Records of such visible emission checks or observations shall be maintained in accordance with Condition 3.4.1. of this permit.

5.2.2. The permittee shall conduct a visual inspection of the equipment and associated control devices associated with the fuel handling equipment at the facility once per month. The visual inspection shall identify area of material spillage and the source(s) causing the material spillage; leakage/fugitive dust; and/or defective equipment or control device(s). Any detective control device or equipment shall be repaired within 10 days of the initial inspection. Results of such inspection and any repairs as result of the inspection shall be maintained in accordance with Condition 3.4.1.

5.2.3. The permittee shall track and record the amount of fuel delivered to the facility on a monthly basis. Such records shall be maintained in accordance with Condition 3.4.1.

5.2.4. The permittee shall conduct inspection of the haul roads at the facility for excessive silt (dust) and roadway defects on a weekly basis and implement either street sweeping/washing or other fugitive dust control measures to minimize fugitive dust from haul roads. Records of such weekly inspections, repairs, and implementing any control measures shall be maintained in accordance with Condition 3.4.1.

5.3. Reporting Requirements

5.3.1. The permittee shall report any exceedances of the requirements in Section 5.1. and Condition 5.2.1. to the Director within 10 days of the exceedance in accordance with Condition 3.5.3.

6.0. Specific Requirements for Sand, Ash, and Other Material Handling Equipment

6.1. Limitations and Standards

6.1.1 The permittee shall minizine fugitive PM emissions from the sand handling and processing (reclaiming) equipment using fugitive particulate matter control devices or measures in accordance with the following requirements.
[45CSR2-5.1.]

a. The drag chain conveyors, bucket elevators, screw conveyors associated with the transporting either a mixture of ash and sand or sand at the facility shall be covered at all times when the ash handling system is in operation.
[45CSR§2-5.1.2]

b. The vibrating screeners (121-CV-5001 A & B) shall be partial enclosed at all times.

c. The bottom ash storage bins (121-S-6001 A & B) and sand receiving hopper (121-S-1004) shall be designed/configured, maintained, and operated in manor that prohibits the discharge any fugitive emissions to the atmosphere at all times when the ash handling system is in operation.
[45CSR§2-5.1.1]

d. The transfer conveyors (121-CV-5003 A &) shall be partially enclosed with a cover at all times when the conveyor is in operation.
[45CSR§2-5.1.2]

e. The facility shall not receive more than 1,752 tons of sand per year on a 12-month rolling total basis.

6.1.2. The permittee shall minizine fugitive PM emissions from the ash handling equipment using fugitive particulate matter control devices or measures in accordance with the following requirements.
[45CSR§2-5.1.]

a. The drag chain conveyors, bucket elevators, conveyors associated with the transporting ash at the facility shall be covered at all times when the ash handling system is in operation.
[45CSR§2-5.1.2]

b. Surge bins for the pulse jet fabric filter baghouse (121-S-4002 A & B) and economizer hopper ash surge bins (121-S-4003 A & B) shall be designed/configured, maintained, and operated in a manor not to discharge any fugitive PM emissions at all times when the ash handling system is in operation.
[45CSR§2-5.1.1]

c. Each fly ash storage silos (121-S-4001 A & B) shall be controlled with pulse jet fabric filter control device at all times when ash is being routed to or storge in the silo. The emissions from each silo shall not exceed the following limitations.
[45CSR§2-5.1.1]

i. PM emission shall not exceed 0.02 pounds per hour on a 3-hour average.

ii. PM_{10} emission shall not exceed 0.01 pounds per hour on a 3-hour average basis.

iii. No visible emissions shall be exhibited for the emission point from each silo.

d. Ash processed through the pugmills (121-MX-4001 A & B) and the fly ash truck loading station (121-TL-0001) with moisture content of no less than 10% by weight.

6.1.3. The permittee shall minizine fugitive PM emissions from the handling equipment for the adsorbent used for the dry sorbent inject system using fugitive particulate matter control device or measures in accordance with the following requirements.
[45CSR2-5.1.]

a. The permittee shall install and maintain a closed vent system that routes the vent for the sodium bicarbonate storage silo (121-S-9901) to the biomass boiler.

b. Each vent for the sodium bicarbonate hoppers (121-S-9902 A & B) shall be controlled with a pules jet fabric filter control device. Emissions from these hoppers shall not exceed the following limits.

i. No visible emissions shall be exhibited for the emission point from each hopper vent.

6.1.4. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10.]

6.2. Monitoring Requirements

6.2.1. The permittee shall conduct visible emission observations using EPA Method 22 with an observation duration of no less than 120 seconds of the following emission points once per month.

Table 6.2.1. – Ash and Sodium Bicarbonate Emission Points

Description of Source	Emission Point ID No.
Fly Ash Storage Silo A	121-S-4001 A
Fly Ash Storage Silo B	121-S-4001 B
Sodium Bicarbonate Vent Hopper A	121-F-9902 A
Sodium Bicarbonate Vent Hopper B	121-F-9902 B

Should any visible emissions be observed during this check, the permittee shall evaluate the operation of the observed source and make all necessary repairs to restore the operation to no visible emissions as soon as practicable, but within five (days) of the visual emission check. Records of such visible emission checks or observations shall be maintained in accordance with Condition 3.4.1. of this permit.

6.2.2. The permittee shall conduct a visual inspection of the equipment and associated control devices associated with the sand, ash, and sorbent handling and processing equipment at the facility once per month. The visual inspection shall identify area of material spillage and the source(s) causing the material spillage; leakage/fugitive dust; and/or defective equipment or control device(s). Any detective control device or equipment shall be repaired within 10 days of the initial inspection. Results of such inspection and any repairs as result of the inspection shall be maintained in accordance with Condition 3.4.1.

6.2.3. The permittee shall track and record the amount of sand and sodium bicarbonate delivered to the facility and the amount of ash loaded into the trucks on a monthly basis. Such records shall be maintained in accordance with Condition 3.4.1.

6.2.4. The permittee shall either sample and measure the moisture of ash loaded into trucks once per operating month. Such records shall be maintained in accordance with Condition 3.4.1.

6.3. Reporting Requirements

6.3.1 The permittee shall report any exceedances of the requirements in Section 6.1. and Condition 6.2.1. to the Director within 10 days of the exceedance in accordance with Condition 3.5.3.

7.0. Specific Requirements for the Mechanical Draft Cooling Tower (129-CT-9301)

7.1. Limitations and Standards

7.1.1 The conditions and requirements in the following subdivisions are specific to the mechanical draft cooling tower (ID #ST-1):

a. Emissions of PM, PM-10, and $PM_{2.5}$ shall be controlled with a 0.001% drift eliminator or equivalent control technology.

i. PM emissions discharged to the atmosphere from the Cooling Tower shall not exceed 2.02 pound per hour and 3.01 TPY.

ii. PM_{10} emissions discharged to the atmosphere from the Cooling Tower (EP #WCT-1) shall not exceed 1.48 pound per hour and 2.52 TPY.

i. $PM_{2.5}$ emissions discharge to the atmosphere from the Cooling Tower (EP #WCT-1) shall not exceed 0.67 lb/hr and 1.26 TPY.

b. The make-up water for the Cooling Tower shall not contain an average concentration of Total Dissolve Solids (TDS) of 340 ppm by weight on a 365-day average basis with no individual daily reading greater than 1,000 ppm by weight.

7.2. Monitoring Requirements

7.2.1. For determining compliance with this emission limit in Condition 8.1.1., the permittee shall monitor cooling water circulation flow rate continuously and the concentration of total dissolved solids contained in the make-up water for the cooling tower or specific conductivity of the make-up water daily. If the permittee uses a correlation curve or ratio between total dissolve solids concentration and specific conductivity, the Director or his/her representative may request the permittee to verify the correlation at any reasonable time with just cause. The permittee shall determine the PM, PM_{10}, and $PM_{2.5}$ emissions from the cooling towers using a method that accurately predicts these specific pollutants from mechanical draft cooling towers. Such determination shall be conducted by no later than the 15th day of the following month. Records of such monitoring and determinations shall be maintained in accordance with Condition 3.4.1. of this permit.

7.3. Recordkeeping Requirements

7.3.1. The permittee shall maintain records and/or supporting information from the actual manufacture of the cooling tower to indicate the percentage of drift from the Cooling Tower. Such records and/or information shall be maintained readily available for the life of the Cooling Tower.

7.4. Reporting Requirements

7.4.1. The permittee shall report any exceedances of the requirements in Section 8.1. to the Director within 10 days of the exceedance in accordance with Condition 3.5.3.

8.0. Specific Requirements for the RICE for the NG Startup Generator and Fire Water Pump (EG-1 & FWP-1)

8.1. Limitations and Standards

8.1.1. The following conditions and requirements are specific to the internal combustion engine (non-emergency engine) for the NG Startup Generator #1 (ID 129-PKG-0001):

a. Emissions shall not exceed the following:

i. NO_x emissions from the engine shall not exceed 1.0 grams of NO_x per horsepower hour or 82 ppmvd at 15% O_2.
[40CFR§60.4233(e), Table 1 - 1 to Subpart JJJJ of Part 60—NO_X, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP]

ii. CO emissions from the engine shall not exceed 2.0 grams of CO per horsepower hour or 270 ppmvd at 15% O_2.
[40CFR§60.4233(e) Table 1 - 1 to Subpart JJJJ of Part 60—NO_X, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP]

iii. VOC emissions from the engine shall not exceed 0.7 grams of VOCs per horsepower hour or 60 ppmvd at 15% O_2. Formaldehyde emissions shall not be included as part of this standard.
[40CFR§60.4233(e) Table 1 - 1 to Subpart JJJJ of Part 60—NO_X, CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP]

b. The permittee shall satisfy compliance with the emission standards in item a of this condition by purchasing an engine certified to comply with the non-emergency engine emission standards of Subpart JJJJ of 40CFR60, as application for the same model year and maximum engine power. The model year of the engine shall be 2024 or later. The mass rate of the certified emissions from the manufacturer of the purchased engine shall not exceed the rates listed in Table 5.1.1.c. The engine must be installed and configured according to the manufacturer's specifications.
[40CFR§§60.4243(a) and (a)(1)]

c. Mass Hourly emissions from the engine shall not exceed the following rates on a 3-hour average basis.

Table 5.1.1.c. Mass Emissions Limits for 129-PKG-0001

Pollutant	Hourly Rate (lb/hr)
Oxides of Nitrogen (NO_x)	6.61
Carbon Monoxide (CO)	13.23
Volatile Organic Compounds (VOCs)	5.67
$PM/PM_{10}/PM_{2.5}$	0.20
Total Hazardous Air Pollutants (HAPs)	1.43
Formaldehyde (HAP)	1.04

d. This engine shall not have a nameplate power greater than the 3,000 bhp.

e. The engine shall be fueled with natural gas that meets the definition in 40 CFR 60.4248 that contains sulfur loading of no greater than 10 ppmv of total sulfur or 0.44 grains of total sulfur per 100 scf.

f. This engine shall not be operated more than 100 hours per year on a 12-month rolling total.

g. This engine shall be equipped prior to initial startup of the engine and maintained for the life of the engine with a non-resettable hour meter. Should an hour meter need to be repaired/replaced, the permittee shall notify the Director in accordance with Condition 3.5.3. of this permit within 15 calendar days of the repair/replacement. Such notice shall include the actual reading prior to the repair/replacement, scope of work performed, individual supervising the repair, and date/time the work was completed.

h. The permittee shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine and associated control device (if equipped) in a manner consistent with good air pollution control practice for minimizing emissions.
[40CFR§60.4243(a)(1)]

8.1.2. The following conditions and requirements are specific to the internal combustion engine for the fire water pump (ID 129-P-9402):

a. Emissions shall not exceed the following:

i. NO_x + Non-Methane Hydrocarbons (NMHC) emissions from the engine shall not exceed 4.0 grams of NO_x per kilowatt-hour (g/kW-hr).
[40CFR§60.4205(c) and §60.4202(d); Table 4 to Subpart IIII of Part 60 - Emission Standards for Stationary Fire Pump Engines]

ii. CO emissions from the engine shall not exceed 3.5 g/kW-hr.
[40CFR§60.4205(c) and §60.4202(d); Table 4 to Subpart IIII of Part 60 - Emission Standards for Stationary Fire Pump Engines]

iii. PM/PM10 emissions from the engine shall not exceed 0.20 g/kW-hr.
[40CFR§§60.4205(c) and §60.4202(d); Table 4 to Subpart IIII of Part 60 - Emission Standards for Stationary Fire Pump Engines]

b. The permittee shall satisfy compliance with the emission standards in subparagraph a. of this condition by purchasing an engine certified to 40 CFR part 89 or 40 CFR 94, as application for the same model year and maximum engine power. The model year of the engine shall be 2025 or later. The mass rate of the certified emissions from the manufacturer of the engine purchased shall not exceed the rates listed in Table 5.1.2.g. The engine must be installed and configured according to the manufacturer's specifications.
[40CFR§60.4211(b)(1)]

c. There is no time limit on the use of this engine in emergency situations. This engine can operate for non-emergency purposes, which include maintenance and readiness testing, and other non-emergency use for no more than 50 hours per year on a calendar year basis.
[40CFR§§60.4211(f), (f)(1), & (f)(2)(i)]

d. This engine is permitted to consume diesel fuel that meets the following standards.

1. Sulfur standard. Maximum sulfur content of 15 ppm.

[40CFR§60.4207(b), and 40CFR§1090.305(b)]

2. Cetane index or aromatic content. Diesel fuel must meet one of the following standards: **[40§CFR§60.4207(b), and 40CFR§1090.305(c)]**

   a. Minimum cetane index of 40; or **[40 CFR §60.4207(b), and 40 CFR §1090.305(c)(1)]**

   b. Maximum aromatic content of 35 volume percent. **[40 CFR §60.4207(b), and 40 CFR §1090.305(c)(2)]**

e. This engine shall be equipped prior to initial startup of the engine and maintained for the life of the engine with a non-resettable hour meter. Should an hour meter need to be repaired/replaced, the permittee shall notify the Director in accordance with Condition 3.5.3. of this permit within 15 calendar days of the repair/replacement. Such notice shall include the actual reading prior to the repair/replacement, scope of work performed, individual supervising the repair, and date/time the work was completed.
[40CFR§60.4237(a)]

f. The permittee shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine and associated control device (if equipped) in a manner consistent with good air pollution control practice for minimizing emissions.
[40CFR§60.4211(a)(1)]

g. The mass hourly emissions from the engine shall not exceed the following rates on a 3-hour average basis.

Table 5.1.2.g. Mass Emissions Limits for 129-P-9402

Pollutant	Hourly Rate (lb/hr)
Oxides of Nitrogen (NO_x)	3.07
Carbon Monoxide (CO)	3.33
Sulfur Dioxide (SO_2)	0.01
Volatile Organic Compounds (VOCs)	0.11
$PM/PM_{10}/PM_{2.5}$	0.20
Total Hazardous Air Pollutants (HAPs)	0.02

d. This engine shall not have a nameplate power greater than 614 bhp.

8.2. Monitoring Requirements

8.2.1. The permittee shall keep records of the hours of operation for each engine (129-PKG-001 & 129-P-9402) for each calendar month. The records must document the hours of operating the NG Startup Generator; and the hours of emergency and non-emergency operations for the Firewater Pump Engine (129-P-9402), including what classified the operation as an emergency and non-emergency operation. At the end of each calendar year, the permittee totals the hours operation for the NG Startup Generator, and the emergency and non-emergency operations for the Firewater Pump Engine. Such records shall be maintained in accordance with Condition 3.4.1. and must be in a manner to demonstrate compliance with the operating limits of Conditions 8.1.1.f. and 8.1.2.c.
[40CFR§60.4214(b)]

8.3. Recordkeeping Requirements

8.3.1. The permittee shall maintain records of any maintenance performed on the engines or associate add-on control device(s) (if applicable) for the NG Startup Generator and Firewater Pump Engine. Such records shall be maintained in accordance with Condition 3.4.1.
[40CFR§§60.4245(a), (a)(2) and §§60.4214(a)(2)(ii)]

8.3.2. The permittee shall maintain documentation from the engine manufacturer that the engines for the NG Startup Generator and Firewater Pump Engine are certified to meet the emission standards and information as required in 40 CFR parts 1048, 1054, and 1060, as applicable for the life of the respective engine.
[40CFR§60.4245(a)(3) and §60.4214(a)(2)(iii)]

8.3.3. The permittee shall maintain records of the amount and type of fuel consumed by each engine respectively on a monthly. Such records of diesel fuel deliveries shall include documentation indicated the sulfur and cetane index or aromatic content in the delivered fuel. Such records shall be maintained in accordance with Condition 3.4.1.

8.3.4. The permittee shall either obtain tariff sheet from the facility's natural gas supplier that specify the maximum total sulfur content natural gas or obtain/determine the total sulfur content of the natural gas consumed by 129-PKG-0001 once per calendar year. Such records shall be maintained in accordance with Condition 3.4.1.

8.4. Reporting Requirements

8.4.1. The permittee shall submit an initial notification in accordance with Condition 2.18. The notification must include the information in subparagraphs (i) through (iii) of this condition for each engine. This notification shall be according to Condition 3.5.3. to the Director.

i. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement.

ii. Emission control equipment (if applicable); and

ii. Fuel used.

8.4.2. The permittee shall report any exceedances of the requirements in Section 8.1. to the Director within 10 days of the exceedance in accordance with Condition 3.5.3.

9.0. Specific Requirements for the Storage Vessels (122-TK-9901, 122-TK-9902, 129-P-9402, 129-TK-9402, and 122-PKG-2001) and Wastewater Treatment Plant (127-PKG-001).

9.1. Limitations and Standards

9.1.1. Emission from the collection of liquid storage vessels, which shall include emission units 122-TK-9901, 122-TK-9902, 129-P-9402, 129-TK-9402, and 122-PKG-2001, at the facility shall not exceed the following emission limits

a. Emission of VOCs shall not exceed 0.02 tons per year on a 12-month rolling total basis.

9.1.2. The following requirements are specific to the lean amine vessel identified as 122-TK-9901.

a. The permittee shall not storage a volatile organic liquid with a maximum true vapor pressure equal to greater than 0.5 psia (3.4 kPa) in the vessel.

b. These vessels shall not be heated to a temperature above 50^{O}F on a monthly average basis.

c. The liquid stored in these vessels shall not have a VOC concentration greater than 47% by weight.

d. The annual throughput of lean amine through this vessel shall not exceed 322,166 gallons per year or 1.07 turnovers per year.

9.1.3. The following requirements are specific to the spent amine loadout station identified as VOC-Amine-Load.

a. VOC Emissions from the loadout station shall not exceed 0.01 lb per hour.

b. When not engage in loadout operations, each valve or line shall be equipped with a cap, blind flange, plug or a second valve.

9.1.4. The permittee shall keep portable containers that storage volatile organic liquids covered or sealed at all times except when dispensing liquids from the container.

9.1.5. Each open-ended valve or line shall be equipped with a cap, blind flange, plug or a second valve, except as provided in Condition 4.1.1.f. or open-ended valve or lines of an emergency shutdown system which are designed to open automatically in the event of process upset.

9.1.6. The permittee shall repair any leaking or defective component (valve, pump, connector) in VOC service within 15 days of detection with the first attempt within the first 5 days of detection. VOC service shall mean in component that is in contact with either gas or liquid that contain 10% or more on a mass basis of components that are classified as VOCs as defined in 40CFR§51.100(s)

9.1.7. The following requirements are specific to the wastewater treatment plant identified as 127-PKG-001:

a. HCl emissions from the collection of process units and fugitive sources associated with the wastewater treatment plant shall not exceed 0.57 tons per year on a 12-month rolling total basis.

b. Sulfuric acid mist (H_2SO_4) emissions from the collection of process units and fugitive sources associated with the wastewater treatment plant shall not exceed 2.79 tons per year on a 12-month rolling total basis.

c. The wastewater treatment plant shall not process/treat more than 930,240 gallons per day.

9.2. Monitoring Requirements

9.2.1. The permittee shall continuously monitor the liquid temperature in lean amine vessel (122-TK-9901) at all times; determine and record the daily average temperature; and determine any day(s) that the daily average temperature is greater than 50^0F. The determination of daily average temperature and any daily average temperature above 50°F shall be conducted no later than the 15th day of the following month. Such records included date, time, duration, and root cause of the exceedance. These records shall be maintained in accordance with Condition 3.4.1.

9.2.2. Once every six months, the permittee shall conduct a leak survey of all process piping in VOC service as defined in Condition 9.1.6. to identify all leaking or defective components. Records of such surveys conducted, identification of leaking or defective components, and dates of repairs shall be maintained in accordance with Condition 3.4.1.

9.2.3. The permittee shall sample the incoming wastewater to the wastewater treatment plant daily to determine either the pH or conductivity of the effluent and determine the monthly average ph using the daily reading. If the average monthly pH readings are lower than 5, the permittee shall determine actual emissions of HCl and H_2SO_4 emissions from the wastewater treatment plant or other acceptable means by the Director to ensure compliance with limits in Condition 9.1.9. are meet. These records shall be maintained in accordance with Condition 3.4.1.

9.3. Recordkeeping Requirements

9.3.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

9.3.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

9.3.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

9.3.4. By no later than the 15th of the following month, the permittee shall record or determine of following information for each month: the amount of volatile organic liquids (VOL) received at the facility on a volumetric basis, the VOC concentration of the liquid received, which vessel the VOL is stored in, and any other record need to determine the actual VOC emissions from each storage vessel. These records shall be maintained in accordance with Condition 3.4.1.

9.3.5. The permittee shall record the total number of gallons of spent/degraded amine loadout through the VOC – Amine Load (loadout station). These records shall be maintained in accordance with Condition 3.4.1.

9.3.6. The permittee shall keep readily accessible records for the life of each vessel showing the dimension and capacity of 122-TK-9901.
[40CFR§§60.116b(b) 60.110c(f) and 60.115c(b)]

9.3.7. Prior to the initial filling or filling of a new VOL of the 122-TK-9901, the permittee shall determine the maximum true vapor pressure at the stored temperature for each VOL stored in this vessel using one of the following methods:
[40CFR§§60.110c(f), 113c(d), and 113c(d)(1)]

a. As obtained from standard reference texts.
[40CFR§113c(d)(1)(i)]

b. ASTM D6377-20 (incorporated by reference; see 40CFR§60.17). Perform the method using a vapor-to-liquid ratio of 4:1, which is expressed in the method as VPCR.
[40CFR§113c(d)(1)(ii)]

c. ASTM D6378-22 (incorporated by reference; see 40CFR§60.17). Perform the method using a vapor-to-liquid ratio of 4:1.
[40CFR§113c(d)(1)(iii)]

d. As measured by an appropriate method as approved by the Administrator.
[40CFR§113c(d)(1)(iv)]

Such records shall be maintained in accordance with Condition 3.4.1.

9.4. Reporting Requirements

9.4.1. The permittee shall report any exceedances of the requirements in Section 9.1. to the Director within 10 days of the exceedance in accordance with Condition 3.5.3.

Appendix A – Summary Report - Gaseous and Opacity Excess Emission and Monitoring System Performance

Pollutant (Circle One—SO2/NOX/TRS/H2S/CO/Opacity)

Reporting period dates: From _____ to _____

Company:

Emission Limitation
Address:

Monitor Manufacturer and Model No.
Date of Latest CMS Certification or Audit
Process Unit(s) Description:
Total source operating time in reporting period[1]

Emission data summary[1]		CMS performance summary[1]	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Startup/shutdown		a. Monitor equipment malfunctions	
b. Control equipment problems		b. Non-Monitor equipment malfunctions	
c. Process problems		c. Quality assurance calibration	
d. Other known causes		d. Other known causes	
e. Unknown causes		e. Unknown causes	
2. Total duration of excess emission		2. Total CMS Downtime	
3. Total duration of excess emissions × (100) [Total source operating time]	%[2]	3. [Total CMS Downtime] × (100) [Total source operating time]	%[2]

[1]For gases, record all times in hours.
[2]For the reporting period: If the total duration of excess emissions 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 40 CFR 60.7(c) shall be submitted.
On a separate page, describe any changes since last quarter in CMS, process or controls. I certify that the information contained in this report is true, accurate, and complete.

Name

Signature

Title

Date

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached _____, representing the period beginning _____ and ending _____, and any supporting documents appended hereto, is true, accurate, and complete.

Signature[1] _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title _____ _____
(please print or type) Name Title

Telephone No. _____ Fax No. _____

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[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.