

*West Virginia Department of Environmental Protection
Division of Air Quality*

*Austin Caperton
Cabinet Secretary*

Construction Permit



R13-3442

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45 C.S.R. 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 facility listed below is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:

**PPD of WV One, LLC
Greenbrier Synthetic Fuel Plant
025-00119**

*Laura M. Crowder
Director, Division of Air Quality*

Issued: Draft

Facility Location: Crawley, Greenbrier County, West Virginia
Mailing Address: 129 Walnut St., Suite 130
 Chattanooga, TN 37403
Facility Description: Biomass to synthetic diesel fuel plant.
NAICS Codes: 325998
UTM Coordinates: 532.25 km Easting • 4,195.78 km Northing • Zone 17
Latitude/Longitude: 37.9090/-80.6331
Permit Type: Construction

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 this permit, the source is a nonmajor or area source subject to 45CSR30. Therefore, the facility is not subject to the permitting requirements of 45CSR30 and is classified as a deferred source.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design / Permitted Capacity	Control Device
VTT-1	Fugitive	Vehicle Truck Traffic	2020	50 Met. TPH	St. Sweep.
UWC-2	Fugitive	Unloading Wood Chips	2020	50 Met. TPH	N
RMS-3	Fugitive	Raw Material Storage	2020	50 Met. TPH	N
CB-5	Fugitive	Wood Chip Conveyor Loading	2020	18 Met. TPH	N
H-6	Fugitive	Wood Chip Hoppers	2020	18 Met. TPH	N
CB-7	Fugitive	Wood Chip Conveyor to Crumbler	2020	18 Met. TPH	N
C-8	BH-1	Crumbling Operation	2020	18 Met. TPH	BH-1
S-8	BH-1	Screening Wet Crumbles	2020	18 Met. TPH	BH-1
S-12	BH-1	Screening Dried Crumbles	2020	13 Met. TPH	BH-1
H-9	Fugitive	Wet Crumbles to Dryer Hopper	2020	18 Met. TPH	N
PD1-11	TO-17a	Porcupine Dryer	2020	4.3 TPH	TO-17a
PD2-11	TO-17b	Porcupine Dryer	2020	4.3 TPH	TO-17b
PD3-11	TO-17c	Porcupine Dryer	2020	4.3 TPH	TO-17c
H-13	fugitive	Dry Crumbles to CHyP Hoppers	2020	13 TPH	N
CHyP 1-16	TO-17a	CHyP Units 1 through 16	2020	4.3 TPH	TO-17a
CHyP 17-32	TO-17b	CHyP Units 17 through 32	2020	4.3 TPH	TO-17b
CHyP 33-48	TO-17c	CHyP Units 33 through 48	2020	4.3 TPH	TO-17c
LED-18	VF-1	Distillation Collection of Light End	2020	600 gal/day	N
PT-19	ST-19	Fuel Processing Tanks	2020	18,000 gal/day	N
WV-20	Fugitive	Wood Vinegar Product Collection	2020	5,600 gal/day	N
WVSpG-17	TO-17b	Wood Vinegar Process Sparge	2020	5,600 gal/day	TO-17b
WVCT-21	Fugitive	Wood Vinegar Cooling Tower	2020	550 gal/min	N
BioC-22	BH-2	BioChar Bagging	2020	1.83 TPH	BH-2
EGen-1	EGen-1	Diesel Emergency Generator	2020	1 MW	N
FL-25	Fugitive	Pumping Station	2020	18,000 gal/day	N
FST-23	Fugitive	Product Storage Tanks	2020	117,000 gal	N
TO-17a-c	TO17a-c	Thermal Oxidizers 17a, 17b & 17c	2020	15mmbtu each	--

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 (45 CSR § 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	NSPS	New Source Performance Standards
CBI	Confidential Business Information	PM	Particulate Matter
CEM	Continuous Emission Monitor	PM_{2.5}	Particulate Matter less than 2.5µm in diameter
CES	Certified Emission Statement	PM₁₀	Particulate Matter less than 10µm in diameter
C.F.R. or CFR	Code of Federal Regulations	Ppb	Pounds per Batch
CO	Carbon Monoxide	pph	Pounds per Hour
C.S.R. or CSR	Codes of State Rules	ppm	Parts per Million
DAQ	Division of Air Quality	Ppmv or ppmv	Parts per million by volume
DEP	Department of Environmental Protection	PSD	Prevention of Significant Deterioration
dscm	Dry Standard Cubic Meter	psi	Pounds per Square Inch
FOIA	Freedom of Information Act	SIC	Standard Industrial Classification
HAP	Hazardous Air Pollutant	SIP	State Implementation Plan
HON	Hazardous Organic NESHAP	SO₂	Sulfur Dioxide
HP	Horsepower	TAP	Toxic Air Pollutant
lbs/hr	Pounds per Hour	TPY	Tons per Year
LDAR	Leak Detection and Repair	TRS	Total Reduced Sulfur
M	Thousand	TSP	Total Suspended Particulate
MACT	Maximum Achievable Control Technology	USEPA	United States Environmental Protection Agency
MDHI	Maximum Design Heat Input	UTM	Universal Transverse Mercator
MM	Million	VEE	Visual Emissions Evaluation
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VOC	Volatile Organic Compounds
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOL	Volatile Organic Liquids
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Authority

This permit is issued in accordance with West Virginia Air Pollution Control Law 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 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 Applications R13-3442 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 13-10.3]
- 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 C.F.R. 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;
- 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.

2.12. Emergency

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and,
 - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emission, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5. The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

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 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 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 C.F.R. § 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 45 C.S.R. 11.
[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 C.F.R. 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. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. 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.*]

3.5. 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 with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304-2345
DAQ Compliance &
Enforcement¹
DEPAirQualityReports@wv.gov

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

If to the USEPA:

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

3.5.4. **Operating Fee.**

3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, the permittee shall submit a Certified Emissions Statement (CES) 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, enclosed with this permit is a Certified Emissions Statement (CES) Invoice, from 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. For any startup date other than July 1, the permittee shall pay a fee or prorated fee in accordance with the Section 4.5 of 45CSR22. A copy of this schedule may be found attached to the Certified Emissions Statement (CES) Invoice.

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. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. The PPD of WV One, LLC, Greenbrier Synthetic Fuel Plant shall consist of only the pollutant-emitting equipment and processes identified under Section 1.0 of this permit and any other processes/units defined as De Minimis per 45CSR13. In accordance with the information filed in Permit Application R13-3442, the equipment shall be installed, maintained, and operated so as to minimize any fugitive escape of pollutants and the equipment/processes shall use the specified control devices.

4.1.2. Emissions from the facility shall not exceed the following:

Source	PM		PM ₁₀		PM _{2.5}		NO _x		CO		VOCs		SO ₂	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Mat. Handling	0.03	0.12	0.02	0.08	0.01	0.01	--	--	--	--	--	--	--	--
Crumbling	0.24	1.04	0.24	1.04	0.24	1.04	--	--	--	--	--	--	--	--
Screen	0.37	1.61	0.13	0.56	0.01	0.01	--	--	--	--	--	--	--	--
Dryer	0.20	0.86	0.02	0.08	0.02	0.08	--	--	--	--	0.02	0.09	0.01	0.02
CHyP	0.04	0.20	0.04	0.20	0.04	0.20	2.73	11.96	12.31	37.30	0.05	0.19	9.04	39.57
Light End Col.	--	--	--	--	--	--	--	--	--	--	0.08	0.34	--	--
Fuel Proc. Tanks	--	--	--	--	--	--	--	--	--	--	0.03	0.10	--	--
WV Collec.	--	--	--	--	--	--	--	--	--	--	1.81	7.91	--	--
Cool. Tow.	0.63	2.75	0.63	2.75	0.63	2.75	--	--	--	--	--	--	--	--
Fuel Stor. Tanks	--	--	--	--	--	--	--	--	--	--	0.02	0.08	--	--
Em. Gen.	0.44	0.03	0.44	0.03	0.44	0.03	12.70	0.63	7.70	0.38	1.41	0.07	1.63	0.08
Fuel Load.	--	--	--	--	--	--	--	--	--	--	0.01	0.05	--	--
Total	1.95	6.61	1.52	4.74	1.39	4.12	15.43	12.59	20.01	37.68	3.43	8.83	10.68	39.70

4.1.3 Emissions from each of the three thermal oxidizers (TO-17a, TO-17b and TO-17c) shall not exceed the following:

PM		PM ₁₀ /PM _{2.5}		NO _x		CO		VOCs		SO ₂	
lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
0.08	0.35	0.02	0.09	0.91	3.99	4.10	12.43	0.03	0.09	3.01	13.19

4.1.4 The amount of biomass processed through the facility shall not exceed 173,812 tons per year. Compliance with this limit shall be based on a rolling 12 month total.

4.1.5 The sulfur content of the incoming biomass shall not exceed 400 ppm. Compliance with this limit shall be based on a rolling 12 month average.

- 4.1.6 Pressure drop across the two baghouses (BH-1 and BH-2) shall be maintained between 2 and 6 inches of water.
- 4.1.7 Initially, the minimum combustion chamber temperature of the three thermal oxidizers (TO-17a, TO-17b and TO-17c) shall not fall below 1,400°F. After completion of the performance tests required by section 4.3 of this permit, minimum combustion temperature of the oxidizers shall not fall below the temperature at which the oxidizers were operating during said performance tests.
- 4.1.8 Natural gas usage by the three thermal oxidizers combined shall not exceed 5 mmbtu/hr.
- 4.1.9 Total waste gas flow to each of the three thermal oxidizers shall not exceed 2,174.63 pounds per hour.
- 4.1.10 Total amount of fuel produced shall not exceed 6,570,000 gallons per year. Compliance with this limit shall be based on a rolling 12 month average.
- 4.1.11 BioChar production from the facility shall not exceed 16,094 tons per year. Compliance with this limit shall be based on a rolling 12 month average.
- 4.1.12 Wood Vinegar production from the facility shall not exceed 513 pounds per year. Compliance with this limit shall be based on a rolling 12 month average.
- 4.1.13 The emergency generator (Egen-1) shall not be operated more than 100 hours per year for non-emergency use.
- 4.1.14 The emergency generator (EGen-1) shall fire only ultra low sulfur diesel fuel with a sulfur content of no greater than 0.0015% by weight.
- 4.1.15 Emissions from the emergency generator shall not exceed the following (all limits in g/kW-hr):
[40 CFR §60.4205]

Engine	NMHC + NO _x	CO	PM
Emergency Generator	6.4	3.5	0.2

- 4.1.15.1 Compliance with the above limits shall be determined by purchasing certified engines.
[40 CFR §60.4211(c)]
- 4.1.16 The emergency generator (EGen-1) shall fire only nonroad diesel fuel that meets the requirements of 40 CFR 80.510(b).
[40 CFR §60.4207(b)]
- 4.1.17 The emergency generator (EGen-1) must meet all applicable requirements of 40 CFR 60 Subpart IIII.
[40 CFR §63.6590(c)(1)]
- 4.1.18 Each owner or operator of any affected facility shall comply with paragraph (a), (b), or (c) of this section for each vent stream on and after the date on which the initial performance test required by §§60.8 and 60.664 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first. Each owner or operator shall either:
 - (a) Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen,

whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater; or

(b) Combust the emissions in a flare that meets the requirements of §60.18; or

(c) Maintain a TRE index value greater than 1.0 without use of VOC emission control devices.

[40 CFR §60.662(c)]

4.1.19 The permittee shall maintain a street sweeper on site and in good operating condition, and shall utilize same as often as is necessary in order to minimize the atmospheric entrainment of fugitive particulate emissions that may be generated from haulroads and other work areas where mobile equipment is used.

[45CSR§17, 45CSR§13-5.10.]

4.1.20 No person shall cause, suffer, allow or permit the emission into the open air from any source operation an in-stack sulfur dioxide concentration exceeding 2,000 parts per million by volume from existing source operations.

[45CSR§10-4.1.]

4.1.21 No person shall cause, suffer, allow or permit the combustion of any refinery process gas stream or any other process gas stream that contains hydrogen sulfide in a concentration greater than 50 grains per 100 cubic feet of gas except in the case of a person operating in compliance with an emission control and mitigation plan approved by the Director and U. S. EPA.

[45CSR§10-5.1.]

4.1.22 No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity.

[45CSR§7-3.1.]

4.1.23 No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of 45CSR7.

[45CSR§7-4.1.]

4.1.24 The Thermal Oxidizers (TO-17a, TO-17b and TO-17c), are subject to the requirements of 45CSR6 including but not limited to the following:

a. No person shall cause, suffer, allow or permit particulate matter to be discharged from any incinerator into the open air in excess of the quantity determined by the use of the following formula:

$$\text{Emissions(lb/hr)} = F \times \text{Incinerator Capacity (tons/hr)}$$

where the factor, F, is as indicated in the table below:

Incinerator Capacity	F Factor
Less than 15,000 lbs/hr	5.43
15,000 lbs/hr or greater	2.72

[45CSR§6-4.1.]

4.1.25 No person shall cause, suffer, allow or permit emission of smoke into the atmosphere from any incinerator which is twenty (20%) percent opacity or greater.

[45CSR§6-4.3]

4.1.26 Incinerators, including all associated equipment and grounds, shall be designed, operated and maintained so as to prevent the emission of objectionable odors.
[45CSR§6-4.6]

4.1.27 **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 In order to determine compliance with 4.1.4, the permittee shall monitor and record the amount of biomass processed through the facility on at least a monthly basis.

4.2.2 In order to determine compliance with 4.1.5, the permittee shall test and record the sulfur content of a representative sample of incoming biomass on at least a calendar month basis.

4.2.3 In order to determine compliance with 4.1.6, the permittee shall monitor and record the pressure drop across each baghouse (BH-1 and BH-2) at least once per day.

4.2.4 In order to determine compliance with 4.1.7, the permittee shall continuously monitor and record the temperature of the combustion chambers of each thermal oxidizer (TO-17a, TO-17b and TO-17c).

4.2.5 In order to determine compliance with 4.1.8, the permittee shall monitor and record the amount of natural gas fired by the thermal oxidizers on at least a daily basis.

4.2.6 In order to determine compliance with 4.1.9, the permittee shall continuously monitor and record the amount of gas flow to each thermal oxidizer (TO-17a, TO-17b and TO-17b).

4.2.7 In order to determine compliance with 4.1.10, the permittee shall monitor and record the amount of fuel produced on at least a daily basis.

4.2.8 In order to determine compliance with 4.1.11, the permittee shall monitor and record the amount of BioChar produced on at least a daily basis.

4.2.9 In order to determine compliance with 4.1.12, the permittee shall monitor and record the amount of wood vinegar produced on at least a daily basis.

4.2.10 In order to determine compliance with 4.1.13, the permittee shall monitor and record the amount of time the emergency generator is operated on at least a daily basis. Additionally, the permittee shall record the reason the emergency generator is being operated (emergency, testing, maintenance etc.)

4.2.11 In order to determine compliance with the fuel sulfur limits of 4.1.14 of this permit the permittee shall monitor fuel sulfur content of the fuel oil combusted by the emergency generator. In lieu of this monitoring, the permittee may maintain onsite a valid purchase contract, tariff sheet or transportation contract guaranteeing that the maximum sulfur content of the fuel is not greater than 0.0015% by weight.

4.2.12. An analysis demonstrating the design capacity of the affected facility shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480a(d).
[40 CFR §60.480a(d)(1)]

4.2.13 The owner or operator of an affected facility that seeks to comply with the TRE index value limit specified under §60.662(c) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator:

(2) Where a condenser is the final recovery device in the recovery system:

(i) A condenser exit (product side) temperature monitoring device equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or ± 0.5 °C, whichever is greater, or

(ii) An organic monitoring device used to monitor organic compounds exiting the recovery device based on a detection principle such as infra-red, photoionization, or thermal conductivity, each equipped with a continuous recorder.

[40 CFR §60.663(e)(2)]

4.3. Testing Requirements

4.3.1 In order to determine compliance with the SO₂, VOC, CO, NO_x and PM thermal oxidizer stack emission limitations of 4.1.3 of this permit, the permittee shall perform EPA approved stack testing on each thermal oxidizer stack within 180 days of startup. Said testing shall utilize EPA approved methods unless otherwise approved by the Director.

4.3.2 The testing required under conditions 4.3.1 of this permit shall be repeated at least once every 5 years.

4.3.3 In order to determine compliance with the opacity limits of 4.1.22 and 4.1.25 of this permit, the permittee shall conduct visible emission checks and / or opacity monitoring and recordkeeping for each baghouse and thermal oxidizer stack.

a. The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course.

b. Visible emission checks shall be conducted at least once per calendar month with a maximum of forty-five (45) days between consecutive readings. These checks shall be performed for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Each observation must be recorded as either visible emissions observed or no visible emissions observed. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

c. If visible emissions are present at a source(s) the permittee shall perform Method 9 readings to

confirm that visible emissions are within the limits of 4.1.22 and 4.1.25 of this permit. Said Method 9 readings shall be taken as soon as practicable, but within seventy-two (72) hours of the Method 22 emission check.

- d. If one year of monthly Method 22 readings show that there are no visible emissions, then the frequency of observations can be reduced to quarterly. If, during quarterly checks, visible emissions are observed, then the frequency of observations shall be returned to monthly.

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.

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.

Signature¹ _____ Date _____
(please use blue ink) Responsible Official or Authorized Representative

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

Telephone No. _____ Fax No. _____

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 USEPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.