

West Virginia Department of Environmental Protection

Division of Air Quality

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Modify



R14-0034

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:
Pleasants Energy, LLC
Waverly Power Plant
073-00022

William F. Durham
Director

Issued: DRAFT

This permit will supercede and replace Permit R13-2373B.

Facility Location: Waverly, Pleasants County, West Virginia

Mailing Address: 10319 South Pleasants Highway
St. Marys, WV 26170

Facility Description: Electric Generating Peaking Station

NAICS Codes: 221112

UTM Coordinates: 468.63 km Easting • 4,353.57 km Northing • Zone 17

Permit Type: PSD Major Modification

Description of Change:

Permit to relax limits which were originally imposed to keep the source a synthetic minor for PSD. Therefore, the facility must undergo retroactive PSD review.

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.

The source is subject to 45CSR30. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

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1.0 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
DG1	EP3	Caterpillar C175-16 Diesel Gen.	2015	3MW	SCR
DG2	EP4	Caterpillar C175-16 Diesel Gen.	2015	3MW	SCR
DG3	EP5	Caterpillar C175-16 Diesel Gen.	2015	3MW	SCR
DG4	EP6	Caterpillar C175-16 Diesel Gen.	2015	3MW	SCR
DG5	EP7	Caterpillar C175-16 Diesel Gen.	2015	3MW	SCR
TP1A	EP8	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP1B	EP8	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP1C	EP8	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP1D	EP8	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP2A	EP9	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP2B	EP9	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP2C	EP9	TurboPhase Module (engine)	2016	2,750 HP	OxCat
TP2D	EP9	TurboPhase Module (engine)	2016	2,750 HP	OxCat
GT1	EP1	GE Model 7FA Turbine	2001	1,571 mmbtu/hr	N
GT2	EP2	GE Model 7FA Turbine	2001	1,571 mmbtu/hr	N

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

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;*
- 2.3.2. 45CSR14 – *Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration;*

2.4. Term and Renewal

- 2.4.1. This permit supercedes and replaces previously issued Permit R13-2373B. 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 Application R13-2373, R13-2373A, R13-2373B and R14-0034 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§§13-5.11 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

If to the USEPA:

Associate Director
Office of Air Enforcement and Compliance Assistance
(3AP20)
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.
- 3.5.5. **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. Maximum Criteria Pollutant emissions from the facility shall not exceed the limits in Table 4.1.1, except that the turbine hourly limits do not include startup or shutdown. For the purpose of this permit, "startup" is defined as the time to achieve steady-state operation. Startup shall begin in the minute flame is established and shall not exceed 120 minutes (2-hour) duration per event. "Shutdown" is defined as the intent to stop operation of the unit and shall begin from steady-state operation to "no flame". Shutdown shall not exceed 60 minutes (1-hour) duration. Should any startup or shutdown be extended beyond the timelines allotted, the Permittee shall report the extension and reasons for said extension.

Table 4.1.1

Source ¹	CO		NO _x		VOCs		PM/PM ₁₀ /PM _{2.55}		SO ₂	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Turbines ²	72.0	509.54	150.0	464.6	6.8	23.84	34.4	100.10	5.60	39.03
Turbines ³	144.0		940.0		16.0		78.0		206.0	
Turbines ⁴	64.0		130.0		6.0		30.0		5.0	
TP engines	5.34	8.66	24.26	39.4	1.46	2.36	1.60	2.60	0.08	0.12
Generators ⁶	50.36	31.47	9.64	6.03	5.76	3.60	1.44	0.90	0.11	0.07
Total	199.7	549.7	97.39	510	23.22	29.8	81.04	103.6	206.19	39.22

¹Two turbines combined, 8 TurboPhase engines combined and 5 generators combined.

²When firing Natural Gas and using the TurboPhase system.

³When firing Fuel Oil

⁴When firing Natural Gas and not using the TurboPhase system.

⁵ Includes both filterable and condensable particulate matter

⁶Represents two of the five generators operating at the same time. No more than two may operate at the same time for peaking purposes. See condition 4.1.19

4.1.2 The combustion turbines (combined) shall not exceed the following emissions for startups and shutdowns:

Table 4.1.2.1: Start-Up & Shut-down Turbine Emission (natural gas operation/per turbine)

Pollutant	Start-Up Emission Rate (lb/hr)	Shut-Down Emission Rate (lb/hr)	Total Emissions Per Event (lbs)
CO	384.4	144.4	913.2
NO _x	121.2	103.3	345.7
PM	15.0	15.0	45
PM ₁₀			
PM _{2.5}			
SO ₂	2.50	2.50	7.5
VOCs	6.80	6.20	19.8
GHGs	183,961	183,961	551,883
H ₂ SO ₄	0.38	0.38	1.14

Table 4.1.2.2: Start-Up & Shut-down Turbine Emission (fuel oil operation/per turbine)

Pollutant	Start-Up Emission Rate (lb/hr)	Shut-Down Emission Rate (lb/hr)	Total Emissions Per Event (lbs)
CO	230.4	195.7	656.5
NO _x	561.6	543.1	1,666.3
PM	39.0	39.0	117.0
PM ₁₀			
PM _{2.5}			
SO ₂	103.0	103.0	309.0
VOCs	9.10	9.0	27.2
GHGs	256,873	256,873	770,619
Lead	0.02	0.02	0.06
H ₂ SO ₄	15.8	15.8	47.4

4.1.3 Each turbine shall be limited to 365 startups and shut downs per year. Of these 365 startups and shut downs, no more than 20 shall occur when firing fuel oil. Compliance with this condition shall be based on a rolling twelve month total.

4.1.4 Maximum non criteria pollutant emissions from the facility shall not exceed the following:

Pollutant	Turbines		Generators		TurboPhase Engines		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
2,2,4-Trimethylpentane	--	--	--	--	0.02	0.03	0.02	0.03
Acetaldehyde	0.13	0.39	--	--	0.57	0.92	0.70	1.31
Acrolein	0.02	0.06	--	--	0.35	0.57	0.37	0.63
Benzene	0.04	0.12	0.11	0.03	0.03	0.05	0.18	0.20
Biphenyl	--	--	--	--	0.01	0.02	0.01	0.02
1,3-Butadiene	--	--	--	--	0.02	0.03	0.02	0.03
Ethyl Benzene	0.10	0.31	--	--	--	--	0.10	0.31
Formaldehyde	0.64	2.00	0.01	0.01	3.60	5.83	4.25	7.84
Hexane	--	--	--	--	0.08	0.12	0.08	0.12
Methanol	--	--	--	--	0.17	0.28	0.17	0.28
Naphthalene	0.01	0.01	0.02	0.01	--	--	0.03	0.02
PAHs	0.01	0.02	--	--	--	--	0.01	0.02
Propylene	--	--	0.40	0.10	--	--	0.40	0.10
Toluene	0.40	1.30	0.04	0.01	0.03	0.05	0.47	1.36
Xylene	0.20	0.62	0.03	0.01	0.01	0.02	0.24	0.65

Total HAPs	1.55	4.83	0.61	0.16	4.89	7.94	7.05	12.92
GHGs (CO_{2e})	256,873	1,231,633	23,401	5,850	15,925	25,879	296,199	1,263,362

- 4.1.5 Combustion Turbines (GT1 and GT2) shall not combust more than $19,082 \times 10^6$ scf/yr of natural gas cumulatively on a rolling 12 month basis. Additionally, whenever fuel oil is combusted this limit shall be reduced by 889 cubic feet of natural gas for each gallon of fuel oil combusted. However, under no circumstances shall more than 8,410,714 gallons of fuel oil be combusted per year.
- 4.1.6 When low sulfur distillate fuel oil is fired, water injection shall be utilized to control NO_x emissions.
- 4.1.7 A dry low NO_x combustion system shall be installed, maintained, and operated so as to control NO_x emissions from the combustion turbines (GT1 and GT2) when natural gas is fired.
- 4.1.8. The annual average sulfur content of the low sulfur distillate fuel shall not exceed 0.05 percent.
- 4.1.9. The annual average sulfur content of the natural gas shall not exceed 0.5 grains per 100 scf.
- 4.1.10 On and after the date of the performance test required by §60.8 is completed, every owner or operator subject to the provisions of this subpart as specified in paragraphs (b), (c) and (d) the following, except as provided in paragraphs (e), (f), (g), (h), (I), (j), (k), and (l) of this section.
§60.332(a)
- 4.1.11 No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:
- $$STD = 0.0075 * (14.4/Y) + F$$
- where:
 STD = allowable NO_x emissions (percent volume at 15 percent oxygen and on a dry basis)
 Y = manufacturer's rated heat rate at manufacturers rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not to exceed 14.4 kilojoules per watt hour.
 F = NO_x emission allowance for fuel-bound nitrogen as defined in paragraph (a)(3) of this section.
§60.332(a)(1)
- 4.1.12 Electric utility stationary gas turbines with a heat input at peak load greater than 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired shall comply with the provisions of paragraph (a)(1) of this section.
§60.332(b)
- 4.1.13 On and after the date on which the performance test required to be conducted by §60.8 is completed, every owner or operator subject of the provision of this subpart shall comply with one or the other of the following conditions:
- (a) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.
- (b) No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight.
§60.333
- 4.1.14 Pursuant to the BACT provisions under 45CSR14, the permittee shall meet the following requirements for each combustion turbine:

Source	PSD Pollutant ⁽¹⁾							
	CO		NO _x		PM _{2.5} /PM ₁₀ /PM ⁽²⁾		GHGs	
	Limit	Tech. ⁽³⁾	Limit	Tech. ⁽³⁾	Limit	Tech. ⁽³⁾	Limit (CO ₂) ⁵	Tech. ⁽³⁾
Turbines ⁽⁴⁾	9 ppm 20 ppm	CP	9.0 ppm 49 ppm	DLNB, Water Inject	15.0 lb.hr w/o TP 17.2 lb/hr w/ TP 39 lb/hr	AF, NG, ULSD	1,300 lb/ MW-hr 1,900 lb/ MW-hr	NG, GE7FA

- (1) Emission rates at loads of 60% or higher. CO & NO_x based on 30 day rolling average. Particulate based on stack testing.
- (2) PM emission rates are given in total particulate (filterable + condensable) matter
- (3) CP=Good Combustion Practices; DLNB = Dry Low NO_x Burners; AF = inlet air filtration; NG = Use of Natural Gas as a fuel; ULSD = use of Ultra Low Sulfur Diesel as a fuel; GE7FA = use of GE Frame 7FA.03 turbines.
- (4) Where 2 limits exist, the upper limit is when firing natural gas and the bottom limit is when firing fuel oil.
- (5) Based on 12 month rolling average.

4.1.14.1 During startup and shut down the applicant shall minimize the emissions by:

1. Operating and maintaining the turbines and associated air pollution control equipment in accordance with good combustion and air pollution control practices, safe operating practices, and protection of the facility.
2. Implementing operations and maintenance practices comprised of maintaining a high level of operation time, and minimizing (as much as practicable given the peaking nature of the facility) the frequency of startup and shutdown events.
3. Operate continuous emission monitoring system (CEMS), and other continuous monitoring systems and devices required by this permit.

4.1.15 Each TurboPhase engine (TP1A-1D, TP2A-2D) shall not operate more than 3,250 hours per year. Compliance with this condition shall be based on a rolling 12 month total. A rolling 12 month total shall be the sum of the operating hours for the previous twelve calendar months.

4.1.16 Each TurboPhase engine shall fire only pipeline quality natural gas with a sulfur content of no more than 0.5 grains per 100 scf.

4.1.17 Emissions from each TurboPhase engine (TP1A-1D, TP2A-2D) shall not exceed the following:

NO _x	CO	VOCs
1.0 g/hp-hr	2.0 g/hp-hr	0.7 g/hp-hr

[40 CFR §60.4233(e)]

4.1.18 The permittee shall keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the TurboPhase engines in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

[40 CFR §60.4243(b)(2)(ii)]

4.1.19 Each Caterpillar C175-16 Diesel Generator (DG1-DG5) shall not operate more than 500 hours per year. Additionally, no more than two of the five generators may operate at the same time for peaking purposes. However, all five may operate at the same time for blackstart purposes. Compliance with this condition shall be based on a rolling 12 month total. A rolling 12 month total shall be the sum of the operating hours for the previous twelve calendar months.

4.1.20 Emissions from each Caterpillar C175-16 Diesel Generator (DG1-DG5) shall not exceed the following (g/hp-hr):

NO _x	CO	PM	NMHC
0.50	2.61	0.07	0.30

4.1.21 The permittee shall meet the requirements of 40 CFR 63 Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines.
[40 CFR §63.6590(c)(1)]

4.1.22 The blackstart generator shall fire only ultra low sulfur diesel fuel with a sulfur content of no greater than 0.0015% by weight.

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

4.2. Monitoring Requirements

4.2.1. For the purposes of determining compliance with maximum combustion limit set forth in 4.1.5, the applicant shall maintain certified daily records of the amount of natural gas and/or fuel oil combusted. Such records shall be retained by the permittee for at least five (5) years. Certified records shall be made available to the Director or his duly authorized representative upon request.

4.2.2 For the purposes of determining compliance with the 4.1.8, 4.1.9, 4.1.16 and 4.1.22 the permittee shall use the following fuel monitoring program:

4.2.2.1 Natural Gas

Sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters. If the sulfur content still shows little variability and consistent compliance with sulfur dioxide limits in 40 CFR 60.333, sampling shall be conducted twice per annum thereafter during the first and third quarters. Analysis for the fuel sulfur content of natural gas shall be conducted using one of the approved ASTM methods referenced in 40 CFR 60.333 or approved alternative.

4.2.2.2 Fuel Oil

The permittee shall test the No. 2 distillate fuel oil for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced below) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the WVDEP.

(a) Fuel oil transport/shipment is defined for sampling purposes as a series of truck transport loads from one specific fuel oil tank belonging to a vendor.

(b) Upon receipt of delivered fuel oil, the receiving tank(s) at the facility will be sampled for fuel

bound nitrogen and sulfur content prior to combustion.

- (c) If no deliveries of fuel oil have been recorded at the Facility prior to the last time fuel oil was combusted no additional sampling and analysis will be conducted and the last analysis will be utilized.
 - (d) If fuel oil is delivered while oil is being combusted, the fuel oil to the combustor will be sampled after delivery of the last tanker truck from either one specific fuel oil tank belonging to the vendor or vendor certification that all deliveries were from same fuel oil source.
- 4.2.3 In order to determine compliance with 4.1.15 the permittee shall monitor and record the hours of operation of each TurboPhase engine (TP1A-TP1D and TP2A-TP2D) on a daily basis.
- 4.2.4 In order to determine compliance with 4.1.19 the permittee shall monitor and record the hours of operation of each Caterpillar C175-16 Diesel Generator (DG1-DG5) on a daily basis.
- 4.2.5 In order to determine compliance with the combustion turbine NO_x limits of condition 4.1.1 and 4.1.2 of this permit, the permittee shall install a continuous emissions monitoring system (CEMS). Said CEMS shall be designed, installed, operated and maintained in accordance with 40 CFR 60.13 or 40 CFR 75, as appropriate.
- 4.2.6 In order to determine compliance with the requirements of 4.1.3, the permittee shall monitor the type (natural gas or fuel oil) and number of each event.

4.3. Testing Requirements

- 4.3.1. The permittee shall conduct an initial performance test and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, on each TurboPhase engine (TP1A-TP1D and TP2A-TP2D) in accordance with 40 CFR §60.4244.
[40 CFR §60.4243(b)(2)(ii)]
- 4.3.2 In order to determine compliance with the emission limitations of 4.1.1, 4.1.4 and 4.1.14 of this permit, the permittee shall perform EPA approved stacktesting on each combustion turbine within 180 days of the issuance of this permit. Said testing shall be performed three times. Once when firing fuel oil with TurboPhase, once when firing natural gas without TurboPhase and once when firing natural gas with TurboPhase. Additionally, said testing shall utilize test methods approved by the Director.
- 4.3.3 The testing required under 4.3.1 of this permit shall be repeated at least once every 5 years.
- 4.3.4 The permittee shall perform any applicable, required testing under 40 CFR 60 Subpart GG.

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. Except as specified in paragraphs (a) and (b) of §60.116b, vessels either with a capacity greater than or equal to 151m³ storing a liquid with a maximum true vapor pressure less than 3.5 kPa or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa are exempt from the General Provisions (part 60, subpart A) and from the provisions of this subpart.
[§60.110b(c)]
- 4.4.5 The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.
[§60.116b(a)]
- 4.4.6 The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.
[§60.116b(b)]
- 4.4.7 Compliance with the turbines NO_x (and CO₂ if properly equipped) emission limit of 4.1.1 shall be determined using the CEMS required by 4.2.5. Compliance with all other annual limits of 4.1.1 shall be determined by multiplying the monthly hours of operation by the applicable hourly limit. At the end of the month, that months emissions shall be added to the previous 12 months emissions to determine compliance.
- 4.4.8 In order to determine compliance with 4.2.6 of this permit, the permittee shall record the type and number of each event and the duration of each shutdown as limited by 4.1.3

- 4.4.9 The permittee shall record the type and amount of fuel used by each combustion turbine on an hourly basis as limited by 4.1.5.
- 4.4.10 The permittee shall record the blackstart generators operating times as limited by 4.1.19.
- 4.4.11 The permittee shall record the CEMS readings required by 4.2.5. Said records shall be used to determine compliance with the NO_x emission limits of 4.1.1 and 4.1.14.

4.5. Reporting Requirements

- 4.5.1. The permittee shall submit any and all applicable notifications and reports required under 40 CFR 60 Subparts IIII, JJJJ and GG.

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

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