STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0263-AOP-R18 AFIN: 35-00110

1. PERMITTING AUTHORITY:

Division of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Entergy Arkansas, LLC - White Bluff Plant
1100 White Bluff Road
Redfield, Arkansas 72132

3. PERMIT WRITER:

Shawn Hutchings

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Fossil Fuel Electric Power Generation
NAICS Code: 221112

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
10/20/2025	PSD Modification	New Turbine, Dew Point Heater, Emergency Engines, and Associated equipment. SN-26 and following.

6. REVIEWER'S NOTES:

Entergy Arkansas, LLC. - White Bluff (AFIN: 35-00110) located in Redfield, Arkansas is a two-unit electric generating station which generates electric energy for sale. This permit modification is a PSD modification to add a new combined cycle turbine, SN-26, and associated equipment, including an emergency generator (SN-27), fire pump (SN-28), equipment leaks and lube oil vents (SN-29 through 33), storage tanks, (SN-34 and 35), and a natural gas dew point heater\ (SN-36). The new plant is nominally rated to provide approximately 750 MW. Permitted emission rates increased 139.7 tpy of particulate, 30.5 tpy of SO_2, 404.7 tpy of VOC,

1201.6 tpy of CO, 228.6 tpy of NO_x, 2,518,500 tpy of GHG, 46.17 tpy of Sulfuric Acid Mist (SAM), 324.72 tpy of Ammonia, and 13.76 tpy of total HAPs.

Prevention of Significant Deterioration Analysis

The project is PSD major for PM, $PM_{2.5}$, PM_{10}, CO, NO_X, VOC, SAM, and Greenhouse Gases.

Ambient Impact Analysis

An applicant for a Prevention of Significant Deterioration (PSD) permit is required to conduct an air quality analysis of the ambient impacts associated with the construction and operation of the proposed new source or modification. The primary purpose of the air quality analysis is to demonstrate that new emissions emitted from a major stationary source, in conjunction with other applicable emissions from existing sources (including secondary emissions from growth associated with the new project), will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment.

PSD modeling is performed in two stages: the significance analysis and the full impact analysis. The significance analysis considers the net emissions change associated with PSD affected emissions units to determine if the increased emissions will have a significant impact upon the surrounding area. If the results of the significance analysis are below the corresponding Modeling Significance Levels, the full impact analysis is not required. The below results for the ozone SIL represent the calculated cumulative consumption of the ozone SIL. A summary of the results of the significance analysis is in the table below.

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	Significance Level ($\mu g/m^3$)
CO	1-hour	592.180	2,000
	8-hour	92.025	500
PM_{10}	24-hour	1.538	5
	Annual	0.070	1.0
$PM_{2.5}$ (Increment)	24-hour	1.605	1.2
	Annual	0.082	0.13
$PM_{2.5}$ (NAAQS)	24-hour	1.098	1.2
	Annual	0.067	0.13
NO_2	1-hour	5.944	7.52
	Annual	0.154	1.0
Ozone	8-hour	0.582	1 ppb

Based on the results presented in the prior table, a full impact analysis was required only for $PM_{2.5}$ 24-hr increment. The full impact analysis modeling must show that the emissions from the facility and surrounding existing sources will not cause or contribute to a violation of any applicable National Ambient Air Quality Standard (NAAQS) or PSD increment. For the $PM_{2.5}$, Tier-1 Screening of Secondary $PM_{2.5}$ impacts using MERPS was used to estimate the concentration of $PM_{2.5}$ secondary formation from NO_X and SO_2. The concentration from secondary formation was added to the modeled concentration for primary $PM_{2.5}$. That value is represented in the table below with the concentrations for other pollutants.

Pollutant	Averaging Period	Maximum Predicted Increment Consumption ($\mu g/m^3$)	PSD Class II Increment ($\mu g/m^3$)	Percent of Class II Increment (%)
$PM_{2.5}$	24-hour	2.215	9	24.6

Arkansas 8 CAR pt. 41 requires that if the issuance of a permit for any major stationary source or any major modification would result in the consumption of more than fifty percent of the available annual increment or eighty percent of any short term increment, the person applying for such a permit shall submit to the Department an assessment of the effects that the proposed consumption would have upon the industrial and economic development within the area of the proposed source and the alternatives to such consumption including alternate siting of the proposed source. To address this requirement, the facility submitted the following.

As the results of the cumulative impact analysis was below 50% of the increment it is mathematically impossible for the facility to have consumed more than 50% of the available annual increment or 80% of any short term increment. No analysis was needed.

Additional Impact Review

An applicant for a Prevention of Significant Deterioration (PSD) permit must prepare additional impact analyses for each pollutant subject to the regulation under the Clean Air Act Amendments. Three areas constitute the Additional Impact Review: a growth analysis, a soils and vegetation analysis, and a visibility analysis.

Growth Analysis

The Growth Analysis estimates the impact of atmospheric emissions that will be generated by the projected growth from industrial, commercial, and residential growth associated with the project.

The growth impacts analysis evaluates a project's potential impact on industrial, commercial, and residential growth in the surrounding area. The JPS project is expected to have minimal impacts on industrial, commercial, and residential growth in the surrounding area.

Soils and Vegetation Analysis

A PSD applicant must also conduct a soil and vegetation air pollution impact analysis based on an inventory of the soils and vegetation types found in the impact area. The soils and vegetation impacts analysis is required to evaluate a project's potential adverse impacts on soil and vegetation in the surrounding area. The JPS project is not expected to have any adverse impacts on soil and vegetation in the surrounding area.

Class I Impacts

As part of a PSD application a facility is required to conduct an analysis of the ambient impacts on Class I areas. The two closest Class one areas are Upper Buffalo Wilderness Class I Area 200km to the northwest and Caney Creek Wilderness Class I Area 178 km to the west. The facility submitted AERMOD modeling which showed the impacts at 50km to demonstrate Class I impacts were not an issue. This analysis states that impacts on the Class I areas should be less than the impacts at the 50km range as the Class I areas are at least three times further distant. A summary of the results of the significance analysis is in the table below. The modeled concentrations were all below the Significance Level and further modeling for these pollutants was not required.

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	Class I Significance Level ($\mu g/m^3$)
PM_{10}	24-hour	0.077	0.3
	Annual	0.00513	0.2
$PM_{2.5}$	24-hour	0.141	0.27
	Annual	0.0164	0.03
NO_2	Annual	0.008	0.1

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are no known enforcement issues with the facility

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? Y
If yes, were GHG emission increases significant? Y

b) Is the facility categorized as a major source for PSD? Y
- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes for 8(b), explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	Asbestos	40 CFR Part 61, Subpart M – *National Emission Standard for Asbestos*
SN-01 SN-02	PM SO_2 NO_X CO_2 Opacity	40 CFR Part 60, Subpart D – *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971*
SN-01 SN-02	PM Opacity	40 CFR Part 64 – Compliance Assurance Monitoring
SN-01 SN-02	SO_2/NOx	40 CFR Part 72, Subpart A-D – Permits Regulation (Acid Rain)
SN-01 SN-02	HAPS	40 CFR Part 63, Subpart UUUUU – *National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units*
SN-01 SN-02	CO	40 CFR § 52.21 *Prevention of significant deterioration of air quality*
SN-01 SN-02 SN-05	SO_2 NOx PM	40 CFR § 52.173 *Visibility protection*

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-05	Filterable PM CO HCl Mercury	40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*
SN-21	Operating standards only	40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* 40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*
SN-26 through 36	PM, PM_{10}, $PM_{2.5}$, CO, NO_x, VOC, SAM, GHG	40 CFR § 52.21 - Prevention of Significant Deterioration (PSD)
SN-26	NO_x, SO_2	40 CFR Part 60, Subpart KKKKa - Standards of Performance for New, Modified, and Reconstructed Stationary Combustion Turbines
SN-26	CO_2	40 CFR Part 60, Subpart TTTTa - Standards of Performance for Greenhouse Gas Emissions for New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units
SN-26	VOC	40 CFR Part 64 - Compliance Assurance Monitoring
SN-26	SO_2, NO_x	40 CFR Parts 72 through 78 - Acid Rain Program and 40 CFR Part 75 monitoring requirements
SN-27, SN-28	PM, CO, NO_x + HC; operating standards	40 CFR Part 60, Subpart IIII - Standards of Performance for Stationary Compression

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
		Ignition Internal Combustion Engines
SN-27, SN-28	Operating standards only	40 CFR Part 63, Subpart ZZZZ - NESHAP for Stationary RICE; compliance through Subpart IIII

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
None				

11. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N
(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any 8 CAR pt. 40 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N
If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
N/A		

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
01 02	PM	Opacity COMs
26	NOx	Exempt by NSPS KKKKa
26	VOC	Continuous monitor CO as surrogate.
26	CO	CEMs Exempt

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

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b) Non-Criteria Pollutants:

[The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Division of Environmental Quality has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
1,3-Butadiene	4.42454	0.486699	0.0021	Y
Acetaldehyde	45.0409	4.9545	1.4944	Y
Acrolein	0.114642	0.0126106	0.3343	N
Ammonia	17.4131	1.91544	75.2390	N
Benzene	0.0638937	0.0070283	1.4480	N
Dichlorobenzene	60.1268	6.61395	5.92E-06	Y
Ethyl benzene	86.8384	9.55223	0.2296	Y
Formaldehyde	0.122822	0.0135104	1.5638	N
Naphthalene	52.4294	5.76724	0.0287	Y
POM	0.2	0.022	0.0606	N
Propylene Oxide	4.75092	0.522601	0.1420	Y
Sulfuric acid H_2SO_4	0.2	0.022	43.0790	N
Toluene	75.3701	8.29072	0.4839	Y
Xylenes	86.8384	9.55223	0.3197	Y

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each

compound has been deemed by the Division of Environmental Quality to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Acrolein	1.1	0.002	Yes
Ammonia	170.4	0.36	Yes
Benzene	0.638937	0.007	Yes
POM	2	0.003	Yes
Sulfuric acid H_2SO_4	2	0.21	Yes

H_2S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H_2S Standards Y
If exempt, explain: The facility is not permitted to emit H_2S

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-01	Coal Fired: NSPS Limits, prior permits, AP-42 (Tables 1.1-4, 1.1-5, 1.1-13, 1.1-14, 1.1-15, 1.1-17 and 1.1-18) Fuel Oil Fired: NSPS Limits Estimated Emissions AP-42 (Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, and 1.3-10)	Coal Fired: CO-185 ppm limit (in 0263-AOP-R9) SO_2: 0.6 lb/MMBTU NO_X: 0.15 lb/MMBTU I hour AP-42 VOC Lead: 0.00042 lb/ton HAPs: various see AP-42 Fuel Oil Fired: AP-42 Lead: 9 $lb/10^{12}$ BTU HAPs: various see AP-42	ESP	99.5%	PM also limited to 0.1 lb/mmbtu by NSPS – this is higher than permitted PM rates
	NESHAP UUUUU AP-42, 1.1-5	HCl: 2.0E-03 lb/MMBtu	None	N/A	4,600,000 ton/yr 20 MMBtu/ton 2x safety factor This EF is used to lower facility's annual fee
SN-02	Coal Fired: NSPS Limits AP-42 (Tables 1.1-4, 1.1-5, 1.1-13, 1.1-14, 1.1-15, 1.1-17 and 1.1-18) Fuel Oil Fired: NSPS Limits Estimated Emissions	Coal Fired: CO-185 ppm limit (in 0263-AOP-R9) SO_2: 0.6 lb/MMBTU NO_X: 0.15 lb/MMBTU I hour AP-42 VOC Lead: 0.00042 lb/ton HAPs: various see AP-42	ESP	99.5%	PM also limited to 0.1 lb/mmBtu by NSPS – this is higher than permitted PM rates

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	AP-42 (Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, and 1.3-10)	Fuel Oil Fired: AP-42 Lead: 9 lb/10^{12} BTU HAPs: various see AP-42			
	NESHAP UUUUU AP-42, 1.1-5	HCl: 2.0E-03 lb/MMBtu	None	N/A	4,600,000 ton/yr 20 MMBtu/ton 2x safety factor This EF is used to lower facility's annual fee
SN-03	Permit Limits AP-42 13.2.4-3 Equation 1	See AP-42 13.2.4-3 Equation 1	Enclosure Chemical Suppressant	50% 90%	VOC based on 1.42% (0.12 lb/gal) with maximum hourly of 91.5 lb/hr and annual of 300,000 lb/yr.
SN-04	Permit Limits AP-42 13.2.4-3 Equation 1	See AP-42 13.2.4-3 Equation 1	Baghouse Enclosure	99.98% PM 99.86% PM_{10}	Two Silos (North and South)
SN-05	AP-42 Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, and 1.3-10	Filterable PM/PM_{10}: 2 lb/1000 gal Condensable PM/PM_{10}: 1.3 lb/1000 gal SO_2: 78.5 lb/1000 gal VOC: 0.252 lb/1000 gal CO: 5 lb/1000 gal NO_X: 24 lb/1000 gal Lead: 9 lb/10^{12} BTU	N/A	N/A	---

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		HAPs: various see AP-42			
SN-06	AP-42 13.2.4-3 Equation 1 Table 11.9-1 13.2.1.3 Equation 1 13.2.2-2 Equation 1	Various Equations Used See AP-42	Enclosures Chemical Suppressant Baghouse	Up to 80% 90% Up to 99.9% PM 99.8% PM_{10}	VOC based on 1.42% (0.12 lb/gal) with maximum hourly of 91.5 lb/hr and annual of 300,000 lb/yr. Haul roads and Landfill surfaces dust suppressant is permitted to contain up to 1.0 lb VOC/gal
SN-07	Tanks	---	N/A	N/A	112,000,000 gal/yr throughput
SN-17	AP-42 Table 13.4-1	PM: 0.073 lb drift/kgal PM_{10}: 0.073 lb drift/kgal	N/A	N/A	Based on 22,125 kgal/hr circulating water flow and a total dissolved solids content of 2,800 ppm.
SN-18	AP-42 Table 13.4-1	PM: 0.073 lb drift/kgal PM_{10}: 0.073 lb drift/kgal	N/A	N/A	Based on 22,125 kgal/hr circulating water flow and a total dissolved solids content of 2,800 ppm.
SN-19	AP-42 13.2.4 Equation 1 13.2.1 Equation 1 13.2.2 Equation 1a	Various Equation Used See AP-42	Chemical Suppressant on Unpaved Road Wetting and Sweeping Paved Road	90% 95%	6 transfer points: 320 tons coal/hr and 2,733,120 tons coal/yr Paved Roads: 1.9 miles; 12 trips/hr (haul trucks); 2 trips/hr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
					(control equipment) 259,019.4 VMT/yr; 0.99 g silt/m^2 (uncontrolled) Unpaved Roads: 0.25 miles; 12 trips/hr (haul trucks); 1 trip/hr (control equipment) 34,081.5 VMT/yr; 6.8% silt
SN-20	MSDS	6.8 lb VOC/gal	N/A	N/A	1 gal/hr 4,000 gal/yr
SN-21	AP-42	Table 3.4.1 through 3.4-4	None	None	2160 hours annual operation
SN-22	Manufacturer for Criteria Pollutants AP-42 for HAPs	Table 3.3-2 for HAPs	None	None	3000 hours annual operation
SN-24	AP-42, 3.2	PM/PM_{10}: 0.0194 lb/MMBtu SO_2: 0.000588 lb/MMBtu	None	None	30 kW 64.1 HP 0.415 MMBtu/hr 500 hours per calendar year
	NSPS JJJJ	VOC/NOx: 10 g/HP-hr CO: 387 g/HP-hr	None	None	
SN-25	TANKS	a. lb/hr VOC 0.7 tpy VOC	None	None	16,000 gal/yr throughput
26	Vendor data and guarantees; AP-42 Ch. 3.1 and 1.4; sulfur and ammonium material balances; Part	NOx 2.0 ppmvd @ 15% O2, 24-hr avg CO 2.0 ppmvd @ 15% O2, 24-hr avg	Dry low-NOx combustors; SCR; oxidation catalyst	Vendor basis: 63% NOx, 84% CO, 75% VOC	26

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	75 App. G; Part 98 Tables C-1/C-2	VOC 1.5 ppmvd @ 15% O2, 3-hr avg PM/PM10/PM2.5 0.0097 lb/MMBtu, 3-hr avg* Fuel sulfur: 1.0 gr/100 scf max; 0.5 gr/100 scf annual avg NH3 10 ppmvd @ 15% O2 Formaldehyde 0.091 ppmvd @ 15% O2 CO2/CO2e: Part 75/TTTTa and PSD output-based limits			
27	NSPS IIII certification; vendor guarantee; AP-42 Tables 3.4-3 and 3.4-4; sulfur mass balance; Part 98	PM 0.20 g/kWh CO 3.50 g/kWh NOx + HC 6.4 g/kWh VOC 0.56 g/kWh Diesel sulfur 15 ppmw maximum	Certified engine; good combustion and maintenance	N/A	27
28	NSPS IIII certification; vendor guarantee; AP-42 Table 3.3-2; sulfur mass balance; Part 98	PM 0.20 g/kWh CO 3.50 g/kWh NOx + HC 4.0 g/kWh VOC 0.11 g/kWh Diesel sulfur 15 ppmw maximum	Certified engine; good combustion and maintenance	N/A	28

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29	TCEQ Air Permit Technical Guidance for Chemical Sources, June 2018; component counts; natural-gas composition	VOC 0.09 lb/hr; 0.37 tpy n-Hexane 0.0193 lb/hr; 0.0837 tpy	Weekly AVO inspection and repair program	Application control credit	Natural-gas component counts multiplied by service factors and 1.58 wt% C3+ content.
30	TCEQ SOCMI without ethylene factors; ammonia-service component counts	Ammonia 0.083 lb/hr; 0.365 tpy	Weekly inspection and repair program	None assigned	Component limits: 300 valves, 2 pumps, 200 flanges, 4 relief valves, and 4 open-ended lines.
31	EPA heavy-oil-service component factors; component counts	VOC 0.0070 lb/hr; 0.031 tpy Total HAP 6.97E-05 lb/hr; 0.00031 tpy	Weekly AVO inspection and repair program	Application control credit	Diesel component counts multiplied by heavy-oil-service factors.
32, 33	Manufacturer data; lube-oil material balance	Less than 0.01 gal/day lube oil loss per vent; pollutant rates from density and composition	Integral mist eliminator	Not specified	SN-32 is the CT lube-oil vent. SN-33 is the steam-turbine lube-oil vent.
34, 35	AP-42 § 7.1, tank dimensions, condensate properties, and throughput	VOC 3.44 lb/hr and 0.03 tpy per tank n-Hexane 0.0123 lb/hr per tank	White horizontal fixed roof; submerged fill; vent	N/A	Each tank is 400 gal. Final design must resolve atmospheric vent versus pressure-vacuum vent. Annual throughput must

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
					support the 0.03 tpy limit.
36	Manufacturer burner data; AP-42 Tables 1.4-3 and 1.4-4; Part 98	$PM/PM_{10}/PM_{2.5}$ 0.0048 lb/MMBtu SO_2 0.001 lb/MMBtu VOC 0.008 lb/MMBtu CO 0.037 lb/MMBtu NO_x 0.011 lb/MMBtu	Ultra-low-NO_x burner; natural gas; good combustion	N/A	5.01 MMBtu/hr HHV; 8,760 hr/yr.
37	AP-42 § 7.1; ULSD tank dimensions, properties, and throughput	VOC 0.23 lb/hr; 0.00376 tpy Total HAP 0.00232 lb/hr; 0.0000376 tpy	White horizontal fixed roof; submerged fill; vent	N/A	37
38	AP-42 § 7.1; ULSD tank dimensions, properties, and throughput	VOC 0.03 lb/hr; 0.000674 tpy Total HAP 0.000279 lb/hr; 0.00000674 tpy	White horizontal fixed roof; submerged fill; vent	N/A	38

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 and 02	CO	10	Every 5 years	To demonstrate compliance with CO emission rates.
01 and 02	PM	5 and 202	Every year	To demonstrate compliance with PM emission rates.

SN	Pollutants	Test Method	Test Interval	Justification
01 and 02	PM_{10}	201A and 202	Every year	To demonstrate compliance with PM_{10} emission rates.
SN-05	PM (filterable)	Method 5 or 17	Annually	Boiler MACT
	TSM	Method 29	Annually	Boiler MACT
	HCl	Method 26 or 26A	Annually	Boiler MACT
	Mercury	Method 29, 30A, or 30 B	Annually	Boiler MACT
	CO	Method 10	Annually	Boiler MACT
26	PM, PM_{10}, $PM_{2.5}$	EPA Methods 201A and 202; normal steady-state operation; 3-hour average; at least 90% of 4,119 MMBtu/hr	Initial	26
26	VOC	EPA Method 25 or 25A; normal steady-state operation; 3-hour average; test at 90% or more of 4,119 MMBtu/hr and at 65-75% load	Initial and every 5 years	26
26	Sulfuric Acid Mist (SAM)	EPA Method 8; normal steady-state operation; 3-hour average; at least 90% of 4,119 MMBtu/hr; sampling may occur before the SCR to avoid ammonia interference	Initial	26
26	SO_2	EPA Method 8; concurrent with the initial SAM test; normal steady-state operation; 3-hour	Initial	26

SN	Pollutants	Test Method	Test Interval	Justification
		average; at least 90% of 4,119 MMBtu/hr		
26	Ammonia	EPA Method 320, CTM-027, or another Division-approved method	Initial	26
26	NO_x	Initial performance test and CEMS RATA under Subpart KKKKa using 40 CFR § 60.4400a procedures	Initial; subsequent testing only if continuous monitoring is not used	26
27	Criteria pollutants	Performance testing under 40 CFR § 60.4212 if the engine is not installed, configured, operated, and maintained according to the manufacturer's emission-related instructions	Initial within 1 year; then every 8,760 operating hours or 3 years, whichever occurs first, if the condition applies	27

17. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
01 & 02	SO_2 CO_2 NO_X Opacity	CEMS	Continuously	Y
26	NO_x	CEMS meeting Part 75 and NSPS KKKKa	Continuous	Y

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
26	CO	CEMS; CAM indicator for oxidation catalyst and VOC control	Continuous	Y
26	O_2	CEMS diluent monitor	Continuous	Y
26	Ammonia	CEMs	Continuous	Y
29, 31	Leaks from natural-gas and diesel components	Audio, visual, and olfactory inspection	Weekly	N
30	Ammonia-system leaks and component condition	Visual inspection and review of process alarms	Weekly	N

18. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01, 02	SO_2 hourly emissions	10,440.0 lb/hr	Continuously	Y
01, 02	SO_2 Emissions	1.2 lb/MMBtu	Continuously	Y
01, 02	SO_2 Emissions after Aug 6, 2021	0.60 lb/MMBtu per rolling 30-boiler-operating-day averaging period	Continuously	Y
01, 02	NO_X hourly emissions	6,090.0 lb/hr	Continuously	Y
01, 02	NO_X Emissions	0.7 lb/MMBtu	Continuously	Y
01, 02	Opacity	20%	Continuously	Y
01, 02	Quarterly Reports	N/A	Quarterly	Y
01, 02	Operating Scenario Log	N/A	As Needed	N
01, 02	SO_2 annual emissions	91,454.4 tpy	Monthly	Y
01, 02	NO_X annual emissions	53,348.4 tpy	Monthly	Y
01, 02	Coal Sulfur and Ash Contents Documentation and (if needed) Calculations	See Specific Condition #26	Annually	N
01, 02, & 05	Sulfur Content of fuel oil	0.5% by weight	Per shipment	N
05	Opacity	20%	Weekly	N
05	Record of when this source is operated	N/A	As Needed	N
06A	Opacity	20%	Weekly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
06B	Opacity	5% off-site	Weekly	N
06C	Dust Suppressant use and VOC content	10,000 gallons/yr No more than 1.0 lb VOC/gal	Monthly	Y
03 & 06A	Dust Suppressant Chemical Foam Spray Usage	2.2 tons/12 month	monthly	Y
03 & 06A	MSDS for VOC Content of Chemical Foam Spray	1.42% by weight	as needed	N
03 & 06A	MSDS for HAP Content of Chemical Foam Spray	no HAPs	as needed	N
06	Fly ash trucks vehicle miles traveled on paved roads	63,586 VMT/yr	Monthly	Y
06	Fly ash trucks vehicle miles traveled on unpaved roads	21,507 VMT/yr	Monthly	Y
06	Operation of Coal Yard Dozers	12,000 hours per yr (combined)	Monthly	Y
06	Water wagon hours of operation	4,000 hours/yr	Monthly	Y
06	Cat Scraper hours of operation	1,500 hours/yr	Monthly	Y
04	Opacity	20%	Daily	Y
04	Log of baghouse maintenance inspections	N/A	Semi-annually	N
07	Fuel Oil Throughput	112,000,000 gal/yr	Monthly	Y
17, 18	Total dissolved solids	2,800 ppm	Weekly	N
17, 18	Circulating water	22,125 kgal/hr	Annually	N
19	Coal Throughput	2,733,120 tons/yr	Monthly	Y
19	Vehicle miles traveled on paved roads from barge to coal pile	259,019.4 VMT/yr	Monthly	Y
19	Vehicle miles traveled on unpaved roads from barge to coal pile	34,081.5 VMT/yr	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
19	MSDS for VOC Content of chemical suppressant	No VOC	As Needed	N
19	MSDS for HAP Content of chemical suppressant	No HAP	As Needed	N
20	MSDS for VOC content	6.8 lb/gal	As Needed	N
20	Solvent Throughput	4,000 gal/yr	Monthly	Y
21	Hours of operation	2160 hrs/12 month	Monthly	Y
22	Hours of operation	3000 hrs/12 month	Monthly	Y
24	Hours of operation	500 hours per calendar year	Monthly	N
25	Fuel Throughput	16,000 gallons/yr	Monthly	Y
26	NO_x and O_2 CEMS data, quality-assurance records, monitor downtime, and required calculations	Part 75 and NSPS Subpart KKKKa requirements	Continuous/hourly and as required	Y
26	CO CEMS data and CAM excursion, investigation, inspection, and corrective-action records	24-hour average of 2.0 ppmvd at 15% O_2, excluding startup, shutdown, tuning, and commissioning	Continuous; each excursion	Y
26	Fuel-flow and heat-input records required by Part 75	Applicable Part 75 requirements	Hourly and as required	Y
26	CO_2 mass, electrical output, and output-based emission-rate records	NSPS Subpart TTTTa requirements	Hourly; rolling 12-operating-month calculations	Y
26	Records and reports for performance tests required by the permit or an incorporated federal provision	Applicable testing requirements	Each required test	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
27, 28	Operating hours by emergency, maintenance/readiness, and other non-emergency use	NSPS Subpart IIII purpose-specific operating restrictions	Continuous hour meter; records by operating purpose	Y
27, 28	Engine certification, operation, maintenance, and diesel-fuel compliance records	NSPS Subpart IIII requirements	As required by Subpart IIII	N
29, 31	Weekly AVO inspection dates and times; detected leaks; one-hour response; repairs, replacements, and delayed-repair tags	Repair as soon as practicable and within 15 days unless shutdown-dependent	Weekly and per leak	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02	20%, 27%	NSPS limit, Department Guidance	COM
01, 02	20%, 60%	State limit	COM
01, 02	20%	CAM (1-hr and 3-hr averages)	COM
03	20%	Department Guidance	Water/Chemical Foam Spray
04	20%	Department Guidance	Daily Observation
05	20%	Department Guidance	Weekly Observation
06A	20%	Department Guidance	Weekly Observation
06B	5% off-site	Department Guidance	Weekly Observation
17, 18	20%	Department Guidance	Operate within Design Specification
19	5% off-site	Department Guidance	Inspections
21	20%	Department Guidance	Once per year and daily if operated more than 24 hours
22	20%	Department Guidance	Once per year and daily if operated more than 24 hours

SN	Opacity	Justification for limit	Compliance Mechanism
24	5%	Department Guidance	Only combusting propane
26 and 36	5%	Department Guidance BACT	Only Combust Natural Gas
27 and 28	20%	Department Guidance BACT	One observation annually.
32 and 33	5%	Department Guidance BACT	Weekly Observations

20. DELETED CONDITIONS:

Former SC	Justification for removal
None	

21. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
C7 Kerosene Fired Space Heater (12)	A-1	3.20E-02	4.10E-01	6.94E-03	4.90E-02	1.80E-01		
C8 Headwaters Diesel Heaters (3)	A-1	3.20E-02	6.90E-01	6.94E-03	4.90E-02	1.80E-01		
C9 Diesel-fired Glycol Heaters (2)	A-1	1.90E-02	1.20E-03	4.16E-03	2.90E-02	1.20E-01		
A-1 Total		8.35E-02	1.11E+00	1.80E-02	1.27E-01	4.67E-01		
T6 Unit 1 FD Fan Hydraulic Reservoir	A-2			1.43E-07				
T7 Unit 1 FD Fan Lube Oil Reservoir	A-2			1.45E-07				
T8 Unit 1 ID Fan Hydraulic Oil Reservoir	A-2			6.99E-08				
T9 Unit 1 ID Fan Motor Oil Reservoir	A-2			3.29E-05				
T10 Unit 1 ID Fan Lube Oil Reservoir	A-2			6.99E-08				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
T15 Unit 2 ID Fan Hydraulic Oil Reservoir	A-2			6.99E-08				
T16 Unit 2 ID Fan Motor Oil Reservoir	A-2			6.99E-08				
T17 Unit 2 ID Fan Lube Oil Reservoir	A-2			6.99E-08				
T18 Unit 2 FD Fan Lube Oil Reservoir	A-2			1.43E-07				
T19 Unit 2 FD Fan Hydraulic Reservoir	A-2			1.43E-07				
T96 Unit-1 Lube Purifier/Centrifuge	A-2			6.99E-08				
T97 Unit-2 Lube Purifier/Centrifuge	A-2			6.99E-08				
T98 Vacuum Pump Oil Separator (2)	A-2			1.40E-07				
T99 No. 1A & 1B BFPT Lube Oil Reservoir	A-2			1.43E-07				
T100 No. 2A & 2B BFPT Lube Oil Reservoir	A-2			1.43E-07				
T114 Bowl Mill Lube Oil Storage Drums (4)	A-2			8.26E-07				
T123 Stacker/Reclaimer Lube Oil Storage Tank	A-2			1.04E-06				
T124 Vacuum Pump Lube Oil Storage Tank #20 (2)	A-2			3.07E-06				
T125 Bulk Storage Tank #25 and #26	A-2			1.75E-06				
T126 APH Gear Box Lube Oil Tanks (2)	A-2			8.35E-07				
T130 Headwaters Rotella T3 15W40 Oil Tank	A-2			4.69E-07				
T131 Lube Oil House 55 gal drums (10)	A-2			9.78E-07				
A-2 Total			4.33E-05					

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
T4 Unit 1 EHC Reservoir	A-3			2.68E-06				
T5 No. 1 A & 1B BFPT Lube Oil Reservoir	A-3			3.51E-06				
T13 Unit 2 EHC Reservoir	A-3			2.75E-06				
T14 No. 2A & 2B BFPT Lube Oil Reservoir	A-3			3.82E-02				
T21 Used Oil Double Walled Storage Tank	A-3			2.79E-05				
T22 Bulk Used Oil Storage Tank #13, #13, #14, and #15 (4)	A-3			7.73E-06				
T24 Mobile Used Oil Storage Tank	A-3			1.34E-05				
T26 10,000 gal No.2 Fuel Oil Storage Tank	A-3			2.27E-02				
T27 Mobile Diesel Fuel Storage Tank	A-3			1.12E-06				
T29 SPCC #11 - Emergency Fire Pump Diesel Fuel Storage Tank	A-3			1.65E-06				
T30 Bulk Storage Tank #12 - Emergency Diesel Generator Fuel Tank	A-3			1.44E-06				
T31 Portable Kerosene Storage Skid Tank	A-3			1.48E-04				
T94 Unit 1 Hydrogen Seal Tank	A-3			1.70E-04				
T95 Unit 2 Hydrogen Seal Tank	A-3			1.70E-04				
T121 RCD Wheel Clamp Hydraulic Oil Reservoir	A-3			4.67E-05				
T122 RCD Car Clamp Hydraulic Oil Reservoir	A-3			1.71E-04				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
T113 Miscellaneous Paint Containers Storage	A-3			9.42E-05				
T115 Bulk Storage Tank #9 and #10 - Coal Yard Lube Oil, Antifreeze, and Hydraulic Fluid Storage Tanks (3)	A-3			1.23E-03				
T116 Vehicle Maintenance Lube Oil, Antifreeze and Hydraulic Fluid Storage Tanks (3)	A-3			1.23E-03				
T120 Main Oil/Water Separator Used Oil Vault	A-3			2.60E-03				
T127 Skid Mounted Horizontal Diesel Tank	A-3			1.73E-03				
T128 Headwaters 1,000 Gal Diesel Tank	A-3			9.61E-04				
T129 Headwaters Used Oil Tank	A-3			3.07E-04				
T132 1,000 gal No.2 Fuel Oil Above Ground Storage Tank	A-3			5.19E-04				
JPS Emergency Generator Diesel Tank	A-3			0.004				
JPS Emergency Firewater Pump Diesel Tank	A-3			0.00007				
A-3 Total				0.0259				
T2 Unit 1 Turbine Lube Oil Storage Tank	A-13			2.10E-07				
T3 Unit 1 Turbine Lube Oil Reservoir	A-13			8.86E-08				
T11 Unit 2 Turbine Lube Oil Storage Tank	A-13			2.10E-07				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
T12 Unit 2 Turbine Lube Oil Reservoir	A-13			8.86E-08				
T71 EHC Fluid Storage	A-13			1.22E-11				
X15 Unleaded Gasoline Dispensing Station	A-13			2.43E-01				
X16 Diesel Dispensing Station (2)	A-13			4.87E-01				
X22 Sand Blasting Booth	A-13	4.38E-01						
X31 Unit 1 ESP Transformer/Rectifiers	A-13							
X32 Unit 2 ESP Transformer/Rectifiers	A-13							
X33 Spare Transformers / Rectifiers	A-13							
X34 Transformers	A-13							
X35 Switchyard Transformers & Oil Circuit Breakers	A-13							
X36-X54 AC Chiller Units	A-13							
X55 Aerosol Lubricant Fugitives	A-13			4.38E-02				
X56 Aerosol Degreaser Fugitives	A-13			1.89E-01				
M60 Unit 1 Economizer Ash Silo	A-13	1.16E-01						
M61 Unit 2 Economizer Ash Silo	A-13	1.16E-01						
X57 Unit 1 AC Silo	A-13	3.38E-03						
X58 Unit 2 AC Silo	A-13	3.38E-03						
X62 17 Gal Ultrasonic Parts Washer	A-13			6.94E-01				
X63 Powdered Halide Hoppers (2)	A-13	7.38E-05						
X64 Bottom Ash Bunker System	A-13	4.02E-01						
A-13 Total		1.08		1.66				

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0263-AOP-R17

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Entergy Arkansas, LLC - White Bluff Plant
Permit #: 0263-AOP-R18
AFIN: 35-00110

$/ton factor	28.14	Annual Chargeable Emissions (tpy)	14061.62
Permit Type	Modification	Permit Fee $	20631.967

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	733.19
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM		3404.2	3543.9	139.7		
PM_{10}		6419.9	6559.6	139.7	0	4000
$PM_{2.5}$		0	139.7	139.7		
SO_2		46149.8	46180.3	30.5	0	4000
VOC		333.8	738.5	404.7	404.7	738.5
CO		11866.4	13068	1201.6		
NO_X		53521.9	53750.4	228.5	0	4000
Lead	☐	2.01	2.01	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
CO2e	☐	0	2518500	2518500		
SAM	☑	118.4	122.17	3.77	3.77	122.17
Cyanide	☐	11.5	11.5	0		
Hydrogen Chloride	☑	184.89	184.89	0	0	184.89
Hydrogen Fluoride	☑	690	690	0	0	690
Methylene Chloride	☑	1.34	1.34	0	0	1.34
Total HAPs	☐	41.85	951.75	909.9		
Ammonia	☑	0	324.72	324.72	324.72	324.72
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		
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Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
	☐	0	0	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
	☐	0	0	0		
	☐	0	0	0		
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