

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1717-AOP-R9 AFIN: 30-00011

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Entergy Arkansas, LLC - Lake Catherine Plant  
141 West County Line Road  
Malvern, Arkansas 72104

3. PERMIT WRITER:

Derrick Brown

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
4/21/2021	Renewal	None.

6. REVIEWER'S NOTES:

Entergy Arkansas, LLC – Lake Catherine Plant is a natural gas fired power generating station located at 141 West County Line Road in Malvern, Arkansas. This modification includes the facility's renewal permit application. Also, this modification includes a specific condition requiring Unit 4 (SN-03) to cease operation by December 31, 2027 as obligated by the Settlement Agreement between Entergy, Sierra Club, and National Parks Conservation Association approved by the U.S. District Court Eastern District Court of Arkansas. There are no requested changes in method of operation or emissions with this modification.

7. COMPLIANCE STATUS:

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

The facility's most recent inspection on 10/23/2020 stated there were NO areas of concern.

8. PSD/GHG APPLICABILITY:

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

b) Is the facility categorized as a major source for PSD? Y

- *Single pollutant  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list*

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

There was no increase in pollutants with this modification.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
N/A		

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
N/A				

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 Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N/A

If not, explain why.

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.

No control device in use.

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

A NAAQS evaluation is not required under the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark. Code Ann. § 8-4-318, dated March 2017 and the DEQ Air Permit Screening Modeling Instructions.

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.

c) H<sub>2</sub>S Modeling: N/A

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equip.	Control Equip. Eff.	Comments
03	AP-42 Table 1.4-4	0.6 lb SO <sub>2</sub> /10 <sup>6</sup> scf; 580 lb NO <sub>x</sub> /10 <sup>6</sup> scf; 24 lb CO/10 <sup>6</sup> scf; 7.6 lb PM/10 <sup>6</sup> scf; 7.6 lb PM <sub>10</sub> /10 <sup>6</sup> scf; HAPs (see app.)	None.		
10	AP-42 Table 3.4-1 thru 4	0.505 lb SO <sub>2</sub> /MMBtu; 3.2 lb NO <sub>x</sub> /MMBtu; 0.85 lb CO/MMBtu; 0.0697 lb PM/MMBtu; 0.0573 lb PM <sub>10</sub> /MMBtu; HAPs (see app.)	None.		

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
No testing required for this permit modification.				

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)
03	O <sub>2</sub>	O <sub>2</sub> monitor	Continuous	Y
03	NO <sub>x</sub>	CEM	Continuous	Y
03	SO <sub>2</sub>	Optional per subpart	Hourly	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)
10	Hours of operation	2,160 hours	Monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
03	40%	Pre-regulatory facility	Daily
10	40%	Dept. Guidance	Annual observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
23 through 26	Sources SN-04 through SN-09 removed this permit modification.

## 21. GROUP A INSIGNIFICANT ACTIVITIES:

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

Source Name	Group A Cat.	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
C8 – Kerosene Fired Steam Heater	A-1	0.032	1.38	0.0069	0.04	0.17		0.00047
Six (6) 170,000 Btu/hr Diesel-fired Heaters	A-1	0.11	0.0068	0.023	0.16	0.64		0.0015
Totals		0.137	0.00887	0.0297	0.208	0.813		0.00201
T23B – Unit 4 FD Fan LO Reservoir	A-2			1.02E-7				
T24A – Unit 4 BFW LO Reservoir	A-2			7.18E-8				
T24B – Unit 4 BFW LO Reservoir	A-2			7.18E-8				
T24C – Unit 4 BFW LO Reservoir	A-2			7.18E-8				
T24D – Unit 4 BFW LO Reservoir	A-2			7.18E-8				
T25 – Unit 4 BFP LO reservoir	A-2			2.41E-8				
T27 – Used Oil Storage Tank	A-2			4.51E-7				
T35 – Used Kerosene Drum	A-2			8.04E-6				
T37 – Waste Oil/Solvent Storage	A-2			4.03E-7				
T46 – Oil/Water Separator (Oil Section)	A-2			4.08E-7				
Totals				9.72E-7				
T21 – Unit 4 LO Filter Tank	A-3			1.27E-6				
T22 – Unit 4 Seal Oil Tank	A-3			6.39E-7				
T23A – Unit 4 FD Fan LO Reservoir	A-3			1.66E-5				
T26 – Emergency Diesel Generator Tank	A-3			2.88E-4				
T36 – Oil Drum Storage	A-3			2.76E-7				
T44 – Diesel Tank	A-3			3.34E-4				
Totals				6.41E-4				
T19 – Unit 4 LO Batch Tanks (2 – 12,000 gal)	A-13			1.32E-5				
T20 – Unit 4 LO Reservoir (12,000 gal)	A-13			5.26E-6				

Source Name	Group A Cat.	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
T45 – 300 gallon Gasoline Tank	A-13			1.55E-1				
X1 – Degreaser	A-13			1.63				
X2 – Unit 3 Welding Area (1 machine)	A-13	0.337						0.2
X4 – Diesel Fuel Oil Dispensing Station	A-13			0.487				
X5 – Unleaded Gasoline Dispensing Station	A-13			0.243				
X6 – Unit 4 Bead Blaster	A-13	0.1						
X13 – Aerosol Lubricant Fugitives	A-13	0.04		0.04				
X14 – Aerosol Degreaser Fugitives	A-13	0.189		0.189				
X15 – Aerosol Insecticides	A-13	0.07		0.07				
X18 – Welding Shop (3 machines)	A-13							0.3
X19 – Aerosol Puncture Station	A-13			0.189				
Totals		0.736		3.0				0.5

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 #
1717-AOP-R8

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Entergy Arkansas, LLC-Lake Catherine  
 Permit Number: 1717-AOP-R9  
 AFIN: 30-00011

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	4355.7
Permit Type	Renewal No Changes	Permit Fee \$	0

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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	0
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		195.3	195.3	0	0	195.3
PM <sub>10</sub>		195.2	195.2	0		
PM <sub>2.5</sub>				0		
SO <sub>2</sub>		18.7	18.7	0	0	18.7
VOC		141.7	141.7	0	0	141.7
CO		620.4	620.4	0		
NO <sub>x</sub>		14881.4	14881.4	0	0	4000
Total Combustion HAPs	<input type="checkbox"/>	48.41	48.41	0		