

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1842-AOP-R8 AFIN: 60-01380

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Arkansas Electric Cooperative Corporation - Harry L. Oswald Generating Station
17400 Highway 365 South
Wrightsville, Arkansas 72183

3. PERMIT WRITER:

John Mazurkiewicz

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
5/12/2020	Renewal	Limits for Single HAP have been added. Total HAP limits increased based on revised calculations.

6. REVIEWER'S NOTES:

- Process descriptions and regulatory citations have been updated.
- Various formatting changes were made.
- Specific Condition 25.d.ii. was corrected to reference Specific Condition 25.d.i.
- Transport Rule (TR) Trading Program Title V Requirements have been included as Appendix H.

7. COMPLIANCE STATUS:

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

The last inspection was conducted April 17, 2019. The Inspection Report notes the following areas of concern:

One the day of the inspection the facility was grinding cooling tower plastic. The grinding process was causing particulate emissions to be released into the air and there was not any suppression being used to control the particulate emissions. (See pictures in report). Mr. Ellis stated that the cooling tower plastic has to be replaced every 10-15 years and they paid a contractor to grind the plastic to save money on the cost of disposal fees. The facility was allowing air contaminants to become airborne on the day of inspection this is in violation of Regulation 18.901, and is not directly stated in the permit. The permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne. [Reg. 18.901 and Ark. Code Ann. 8-4-203 as referenced by Ark. Code Ann. 8-4-304 and 8-4-311]

There are no current enforcement actions against the facility. A review of ECHO revealed no formal enforcement actions in the last five (5) years.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? *No*.
If yes, were GHG emission increases significant? *N/A*.

b) Is the facility categorized as a major source for PSD? *Yes*.

- *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.

This revision does not include any major modification as defined in 40 C.F.R. § 52.21.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-01 through SN-07	PM ₁₀ VOC CO NO _x	BACT
	NO _x	NSPS Db
	SO ₂ NO _x	NSPS GG

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-08	HAPs	NESHAP ZZZZ
SN-10		

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? *Yes.*

(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? *Yes.*
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
SN-01 through SN-07	40 C.F.R. Part 64	None of the emission units use a control device as defined under Part 64.
SN-08 through SN-10	40 C.F.R. Part 64	None of the emission units have a potential pre-control device emissions in the amounts of tons per year required to classify the unit as a major source under Part 70.
Cooling Tower (SN-09)	40 C.F.R. Part 63 Subpart Q	The facility is not a major source of HAPs. The facility does not operate the cooling tower with chromium based water treatment chemicals.
Duct Burners (SN-01 through SN-07)	40 C.F.R. 60.49b(g) and (b)	Pursuant to 40 CFR 60.48b(h) a continuous monitoring system for NO _x is not required for the duct burners. Therefore these two paragraphs do not apply because the provisions are applicable to affected facilities required to install a continuous monitoring system.

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
None.		

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 ADEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Department 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 Department 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) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Acrolein	0.23	0.0253	0.0220	Yes
Beryllium	0.00005	5.5E-06	1.77E-05	No

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Cadmium	0.01	0.0011	0.0016	No
Chromium	0.01	0.0011	0.0021	No
Cobalt	0.02	0.0022	0.0001	Yes
Lead	0.05	0.0055	0.0007	Yes
Manganese	0.2	0.022	0.0006	Yes
Mercury	0.025	0.00275	0.0004	Yes
Nickel	0.1	0.011	0.0031	Yes
POM	0.2	0.022	0.0076	No
Selenium	0.2	0.022	3.54E-05	Yes

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 Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Beryllium	0.0005	8.65E-07	Yes
Cadmium	0.1	8.0E-05	Yes
Chromium	0.1	0.0001	Yes
POM	2.0	0.01709	Yes

c) H₂S Modeling: N/A.

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
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SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01-06	Vendor Data	PM 0.0052 lb/MMBTU VOC 0.0005 lb/MMBTU CO 66 ppmvd@15% O ₂ NO _x 25 ppmvd@15% O ₂	None	N/A	Uses steam injection to limit NO _x emissions
07	Vendor Data	PM 0.0061 lb/MMBTU VOC 0.0006 lb/MMBTU CO 50 ppmvd@15% O ₂ NO _x 9 ppmvd@15% O ₂	None	N/A	Facility uses Dry Low NO _x
08	AP-42 Table 3.4-1	PM ₁₀ 0.0007 lb/hp-hr SO ₂ 4E-4 lb/hp-hr VOC 6E-4 lb/hp-hr CO 5.5E-3 lb/hp-hr NO _x 0.024 lb/hp-hr	CO Oxidation Catalyst	70%	1,254 hp 1,250 hrs/yr
09	EPA Report	31.3% dispersion factor 4000 lb PM/1E6 lb water	None		1,442 lb water/hr
10	AP-42	PM 0.1 lb/MMBTU SO ₂ 0.084 lb/MMBTU VOC 2.1 lb/MMBTU CO 0.99 lb/MMBTU NO _x 1.63	None	N/A	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		lb/MMBTU			

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01-07	VOC	25A	5 yrs	To confirm BACT limits

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)
01-07	SO ₂	continuous monitoring systems	N/A	N/A
	CO	continuous monitoring systems	Continuously	N/A
	NO _x	continuous monitoring systems	Continuously	N/A
	Sulfur content of fuel	N/A*	N/A	N/A
	fuel nitrogen content	N/A*	N/A	N/A

* EPA allowed the permittee to use Part 75 CEMS and data gathering methods in place of the requirements of these Part 60 requirements.

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)
01-07	Firing Natural Gas only	No limit, will be at capacity	Monthly	N
	Duct Burner Hours or Operation	7,500	Monthly	Y
08	Hours of Operation	1,250	Monthly	Y
	Diesel Sulfur	0.05% weight	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Content			
	Subpart ZZZZ recordkeeping	Reduce CO emissions by 70 percent or more	Continuous	Y
09	Total Dissolved Solids	4000 ppm	Monthly	N
10	Hours of Operation	500	Monthly	Y

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01-07	5%	Natural gas use	natural gas only
08	20%	Department standards	method 9 readings
09	20%	Department standards	dissolved solids limit along with annual inspections
10	20%	Department standards	method 9 readings

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
9.9 MMBtu/hr Natural Gas Fired Fuel Heater	A-1	0.33	0.03	0.24	3.64	4.34	N/A	
EDG Fuel Storage Tank (500 gallons)	A-3	-	-	0.01	-	-	0.01	0.01

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Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Emergency Fire Pump Fuel Tank (360 gallons)	A-3	-	-	0.01	-	-	0.01	0.01

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 #
1842-AOP-R7

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Arkansas Electric Cooperative Corporation - Harry L.
Oswald Generating Station
Permit Number: 1842-AOP-R8
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\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	899.6
Permit Type	Minor Mod	Permit Fee \$	500

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		185.6	185.6	0	0	185.6
PM ₁₀		180.5	180.5	0		
PM _{2.5}		0	0	0		
SO ₂		13.4	13.4	0	0	13.4
VOC		74.5	74.5	0	0	74.5
CO		817.3	817.3	0		
NO _x		626.1	626.1	0	0	626.1

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Single HAP	<input type="checkbox"/>	0	9.95	9.95		
Total HAPs	<input type="checkbox"/>	19.64	22.23	2.59		