

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1842-AOP-R0

1. PERMITTING AUTHORITY:

Arkansas Department of Pollution Control and Ecology
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Wrightsville Power Facility
Arkansas Highway 365
Wrightsville, Arkansas 72183

3. PERMIT WRITER:

John Bailey

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Power Plant
SIC Code: 4911

5. SUBMITTALS: May 3, 1999

6. REVIEWER'S NOTES:

The facility plans to install six (6) LM6000 combustion turbines w/ duct burners, one (1) 7EA Frame combustion turbine w/ duct burner. The facility went through PSD review. The facility shall meet all BACT determinations by using CEMS when the duct burner is not being operated. When the turbine/duct burner is being operated the facility must use the CEMS to show compliance with the lb/hr limits specified in the permit.

7. COMPLIANCE STATUS: The facility has not been built yet, therefore there are no compliance issues with the facility

8. APPLICABLE REGULATIONS:

A. Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N) Y

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Has this facility underwent PSD review in the past (Y/N) __N__ Permit # _____

Is this facility categorized as a major source for PSD? (Y/N) __Y__

\$ 100 tpy and on the list of 28 (100 tpy)? (Y/N) __Y__

2. PSD Netting

Netting was not preformed in this permit.

3. Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
SN-01 thru SN-07 Turbine w/duct burner	PM ₁₀ VOC CO NOx	BACT
SN-01 thru SN-07 Turbine w/duct burner	NOx	NSPS Db
SN-01 thru SN-07 Turbine w/duct burner	SO ₂ NOx	NSPS GG

9. INITIAL EMISSIONS:

This is an initial permit for the facility. The following table shows the initial emissions at the facility

Plantwide Permitted Emissions (ton/yr)	
Pollutant	Air Permit 1842-AOP-R0
PM	185.3
PM ₁₀	180.2
SO ₂	13.2
VOC	18.0
CO	818.6

Plantwide Permitted Emissions (ton/yr)	
Pollutant	Air Permit 1842-AOP-R0
NO _x	550.6

10. MODELING:

A. Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m³)	Averaging Time	Highest Concentration (µg/m³)	% of NAAQS
PM ₁₀	43.2	50	Annual	0.255	1%
		150	24-hour	4.07	3%
SO ₂	3.8	80	Annual	0.041	0%
		1,300	3-hour	1.046	0%
		365	24-hour	0.492	0%
NO _x	418.1	100	Annual	0.569	1%
CO	612.9	10,000	8-hour	101	1%
		40,000	1-hour	325	1%

11. Non-Criteria Pollutants

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The PAER was deemed by the Department to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH). The following emission are based on the combustion of natural gas.

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HAP	Emission Rate (lb/hr)	TLV (mg/m ³)	PAER (lb/hr)	Pass?
Benzene	0.00751	1.6	0.18	Yes
Toluene	0.00272	188	20.71	Yes
Xylene	0.00187	434	47.73	Yes
Formaldehyde	0.00076	0.37	0.04	Yes
Acetaldehyde	0.00024	45	4.95	Yes
Acrolein	0.00008	0.23	0.03	Yes
Naphthalene	0.00126	52.4	5.76	Yes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type and Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
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	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	Facility uses Dry Low NO _x
08	AP-42	PM10 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	None	
09-18	EPA Report	31.3% dispersion factor 4000 lb PM/1E6 lb water	None	

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
01-07	PM ₁₀ VOC CO NO _x	5 25A 10 7E	Initial	To confirm BACT limits

* Will only have to test one-half of the turbines/duct burners for this pollutant.

14. MONITORING OR CEMS

The following are parameters that must be monitored with CEMS or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
01-07	SO ₂	CEMS	na	na
	CO	CEMS	Continuously	na
	NO _x	CEMS	Continuously	na
	Sulfur content of fuel	na***	na	na
	Water-to-fuel ratio & fuel consumption	na***	na	na
	fuel nitrogen content	na***	na	na

* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

** Indicates whether the parameter needs to be included in reports.

***The facility is requesting that EPA remove these requirements, compliance with Part 75 will show compliance. But until permission is received from EPA, they will meet NSPS requirements.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
01-07	Firing Natural Gas only	No limit, will be at capacity	Monthly	N

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)
 ** Indicates whether the item needs to be included in reports

16. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
01-08	5	Dept. Guidance	Burning NG
09-18	20	19.503	Annual inspection

17. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Tom Rheaume, P.E.