

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2198-AR-3 AFIN: 62-00118

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Federal Bureau of Prisons - Federal Correctional Complex
1301 Dale Bumpers Road
Forrest City, Arkansas 72335

3. PERMIT WRITER:

Jesse Smith

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Correctional Institutions
NAICS Code: 922140

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
8/3/2023	Modification	Replacement of an emergency generator with two new models Addition of coating line Addition of a boiler

6. REVIEWER'S NOTES:

The Federal Bureau of Prisons operates a Federal Correctional Complex (FCC) in Forrest City, Arkansas. Air emissions from several combustion sources and furniture construction operations are permitted under a minor source air permit. With this modification, the facility is adding coating, staining, and topcoat operations, replacing a current emergency generator with two newer models, and adding an additional boiler. HAP emissions have also been added where appropriate for existing sources. Changes to

permitted emissions are as follows: increase of 1.8 tpy PM/PM₁₀, decrease of 1.1 tpy SO₂, increase of 2.1 tpy VOC, increase of 0.2 tpy CO, increase of 1.6 tpy NO_x, increase of 4.82 tpy Single HAP, and increase of 8.31 tpy Total HAP.

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 was last inspected on January 31, 2024. There were no areas of concern noted at this time nor are there any current violations noted on EPA's ECHO database for the facility.

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

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

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

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
001-003	PM	NSPS Dc
030	HAP	NESHAP CCCCCC
044, 045	SO ₂	NSPS 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
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 Rule 18 requirement.)

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
N/A		

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.

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/m³), 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?
Chromium	0.5	0.055	0.0542	Y

c) H₂S 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 H₂S Standards Y
 If exempt, explain: No H₂S emissions present.

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)		Control Equipment	Control Equipment Efficiency	Comments
001-003	AP-42 1.4 & 1.3	NG	lb/MMBTU	None	N/A	14 MM Btu/hr Boilers permitted at 8760 hrs/yr natural gas + 30 days/year maximum on diesel fuel
		PM	0.00746			
		PM ₁₀	0.00746			
		SO ₂	0.00059			
		VOC	0.00540			
		CO	0.08236			
		NO _x	0.09804			
		Single HAP	0.003039			
		Total HAP	0.011104			
		Diesel	lb/MMBTU			
		PM	0.01429			
		PM ₁₀	0.01429			
		SO ₂	0.50715			
		VOC	0.00929			
		CO	0.03572			
NO _x	0.14286					
004-025	AP-42 1.4	Diesel	lb/1000 gal	None	N/A	22 natural gas boilers permitted at 8760 hrs/year TPY bubbled
		Single HAP	0.033			
		Total HAP	0.0410114			
		NG	lb/MMBTU			
		PM	0.00746			
PM ₁₀	0.00746					
SO ₂	0.00059					
VOC	0.00540					
CO	0.08236					
NO _x	0.09804					

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)		Control Equipment	Control Equipment Efficiency	Comments	
		Single HAP	Total HAP				
033		Single HAP	0.003039			2.5 MMBtu/hr boiler	
		Total HAP	0.011104				
027 028 044 045	AP-42 3.4		lb/hp-hr	lb/MMBTU	None	N/A	Four diesel emergency generators permitted at a maximum of 500 hrs/yr maximum
		PM	7.00E-04	0.0697			
		PM ₁₀	7.00E-04	0.0573			
		SO ₂	4.05E-03	0.202			
		VOC	7.05E-04	0.09			
		CO	5.50E-03	0.85			
		NO _x	2.40E-02	3.2			
		Single HAP	8.31E-06	0.00118			
		Total HAP	4.54E-05	0.00646			
029	MSDS	Maximum 1.0% by weight VOC		None	N/A	Unicor Gluing Operation	
030	TANKS & MSDS	12,000 gallon Gas tank Horizontal, 34'x8' 7 turnovers a year VOC emissions=2,275.01 lb/yr 20% Toluene 20% Xylene 15% Ethyl benzene 11% MTBE 5% Benzene		None	N/A		
031 032 034- 043	Safety Data Sheets	Water Reducible Wiping Stains: Cherry – 0.63 lb VOC/gal Mahogany – 0.72 lb VOC/gal Walnut – 0.93 lb VOC/gal Walnut – 0.1 % chromium by weight					

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

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)
027 028 044 045	Hours of operation	Non-resettable hour meter	monthly	No

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)
001-003	natural gas and diesel fuel consumed	73,080 gal/12m for each boiler Boilers permitted @ capacity on NG	monthly	N
001-003 026-028	fuel oil sulfur content	0.5% maximum	each delivery	N
027 028 044 045	Hours of operation	500 total hours/12m per generator	Monthly	N
029	Adhesive usage	185,860 lb/12m max	Monthly	N
	VOC content (wt.%) of adhesives used	1.0 % by weight max	Each MSDS	N
030	Gasoline tank thruput	9,999 gallons/month max	Each delivery	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		84,000 gallons/12m max	Monthly	N
031	Water-reducible wood stain usage	3,190 gallons per 12 months	Monthly	N
	Waterborne ultraviolet top coating usage	5,780 gallons per 12 months	Monthly	N
	Lacquer clear coating	2,320 gallons per 12 months	Monthly	N
034	Water-reducible wood stain usage	14,000 gallons per 12 months	Monthly	N
039	Waterborne ultraviolet top coating usage	25,000 gallons per 12 months	Monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
001-003	5%, natural gas	Rule 18.501	Inspector Observation
	20%, #2 fuel oil	Rule 19.503	Inspector Observation
004-025	5%	Rule 18.501	Natural gas only
027-028 044-045	20%	Rule 19.503	Inspector Observation
031, 032, 034-043	5%	Rule 19.503	Inspector Observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

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
<i>No additions to the insignificant activities list were made with this permit; therefore, this information was not provided or required.</i>								

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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 #
2198-AR-2

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Federal Bureau of Prisons - Federal
 Correctional Complex
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			Old Permit	New Permit
\$/ton factor	28.14	Permit Predominant Air Contaminant	78.1	79.7
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	1.6	
Minimum Initial Fee \$	500			
Check if Administrative Amendment	<input type="checkbox"/>	Permit Fee \$	400	
		Annual Chargeable Emissions (tpy)	79.7	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	5.5	7.3	1.8
PM ₁₀	5.5	7.3	1.8
PM _{2.5}	0	0	0
SO ₂	17	15.9	-1.1
VOC	6.9	9	2.1
CO	39.5	39.7	0.2
NO _x	78.1	79.7	1.6
Single HAP	0	4.82	4.82
Total HAP	0.81	9.12	8.31