

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2421-AOP-R2 AFIN: 58-00891

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Arkansas BioEnergy, LLC - Russellville
3318 Bernice Avenue
Russellville, Arkansas 72802

3. PERMIT WRITER:

Skylar Redman

4. NAICS DESCRIPTION AND CODE:

NAICS Description: All Other Miscellaneous Wood Product Manufacturing
NAICS Code: 321999

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
7/25/2025	Renewal	Updated emission factors

6. REVIEWER'S NOTES:

Arkansas BioEnergy, LLC operates a wood pellet manufacturing facility located at 3318 Bernice Avenue in Russellville, Arkansas. Arkansas BioEnergy – Russellville is applying for a renewal to the Title V permit. The only changes are updated emission factors. Emission changes are as follows: a decrease in 0.1 tpy of PM/PM₁₀, 0.1 tpy of VOC, and 0.53 tpy of total HAPs.

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 March 6th, 2024 with no violations identified.

<https://echo.epa.gov/detailed-facility-report?fid=110070894651>

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? 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)
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 8 CAR pt. 40 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 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 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/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?
Acrolein	0.115	0.0115	0.021	No
Formaldehyde	0.1	0.011	0.345	No

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?
Acrolein	1.15	0.79958	Yes
Formaldehyde	15.0*	5.54	Yes

*ADEQ approved alternate PAIL

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: The facility does not emit H₂S

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Manufacturer data Wood Products Protocol 1 from EPA's "Interim VOC Measurement Protocol for the Wood Products Industry – July 2007" Previous stack test data	lb/ton PM/PM10: 0.03 VOC: 1.318 lb/ODT Acrolein: 0.0028 Formaldehyde: 0.0063	Baghouse	-	Safety factor of 1.5 on all pollutants
02	Manufacturer data Wood Products Protocol 1 from EPA's "Interim VOC Measurement Protocol for the Wood Products Industry – July 2007" Previous stack test data	lb/ton PM/PM10: 0.56 VOC: 4.35 lb/ODT Acrolein: 0.0083 Formaldehyde: 0.0203	Cyclone	-	Safety factor of 25% on VOC, 1.5 on all other pollutants
03	AP-42 13.2.2.2	Shavings lb/VMT PM: 7.098 PM10: 2.023	-	-	VMT/yr Shavings: 761 Shavings Reject: 22

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		Shavings Reject lb/VMT PM: 7.098 PM10: 2.023 Pellets lb/VMT PM: 7.098 PM10: 2.023			Pellets: 711
05	Manufacturer data Wood Products Protocol 1 from EPA's "Interim VOC Measurement Protocol for the Wood Products Industry – July 2007" Previous stack test data	gr/scf PM/PM10: 0.015 lb/ODT VOC: 0.721 Acrolein: 0.0027 Formaldehyde: 0.0051	Baghouse	-	Safety factor of 25% on VOC, 1.5 on all other pollutants.

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	PM ₁₀	Method 201A with 202	Initial test then subsequent test once every 12 months until 3 tests are passed, then every 60 months	Verify Emission Rates
	VOC	Method 25A		
02	PM ₁₀	Method 201A with 202	Initial test then subsequent test once every 12 months until 3 tests are passed, then every 60 months	Verify Emission Rates
	VOC	Method 25A		

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)
N/A				

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)
Facility	Tons of finished pellets	62,765 tons per rolling 12 month period	Monthly	Y
01, 02, 05	Opacity	20%	Monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02	20%	8 CAR § 41-403 and 40 C.F.R. Part 52, Subpart E	Weekly Observations
03	5%	8 CAR § 40-401 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Inspector Observation
05	20%	8 CAR § 41-403 and 40 C.F.R. Part 52, Subpart E	Weekly 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
Diesel Cube (250 Gal)	A-3			3.0E-04				
Shaving Storage and Loading*	A-13	0.074						
Shaving Handlings*	A-13	0.139						
Reject Pile – Wind Errosion*		0.629						

*Note – The facility does not believe there are quantifiable VOC or HAP emissions from the purchased dry shavings prior to the Hammer Mill. Other than storage and conveyance there is no processing of the shavings. Additionally, VOC or HAP emissions are typically not permitted from planer shavings conveyance or storage from lumber mills.

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 #
2421-AOP-R1

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Arkansas BioEnergy, LLC
 Permit Number: 2421-AOP-R2
 AFIN: 58-00891

\$/ton factor	28.14	Annual Chargeable Emissions (tpy)	259.3
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 ☐
 If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$ 0
 Total Permit Fee Chargeable Emissions (tpy) -0.2
 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		39.7	39.6	-0.1	-0.1	39.6
PM ₁₀		35.9	35.8	-0.1		
PM _{2.5}		0	0	0		
SO ₂		0	0	0	0	0
VOC		219.8	219.7	-0.1	-0.1	219.7
CO		0	0	0		
NO _x		0	0	0	0	0
Total HAP	☐	5.38	4.85	-0.53		