

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2058-AR-10 AFIN: 75-00051

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Pet Solutions Holdings, LLC
10511 Gauge Road
Danville, Arkansas 72833

3. PERMIT WRITER:

Derrick Brown

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Rendering and Meat Byproduct Processing
NAICS Code: 311613

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
2/10/2022	Deminimis	Removal of SN-06, addition of SN-19, and addition of an Insignificant activity.

6. REVIEWER'S NOTES:

Pet Solutions, LLC (Pet) owns and operates a protein conversion facility located at 10511 Gauge Road, Danville, Yell County, Arkansas, southwest of Centerville and north of Ola. This modification allows the addition of a 6 MMBtu/hr Dryer, two (2) Silos with baghouses and finished product loadout (all included in SN-19). Removal of SN-06, a 600 Hp Boiler. Finally, addition of a 4 MMBtu/hr Blood Dryer as an Insignificant Activity. This modification decreases permitted emissions by 17.7 tpy of PM₁₀, 19.0 tpy of PM, 1.4 tpy of SO₂, 0.8 tpy of VOC, 32.0 tpy of CO, 10.0 tpy of NO_x, and various HAPs.

7. COMPLIANCE STATUS:

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

Per most recent Inspection Report dated 08/04/2020, there were no areas of concern.

8. PSD/GHG APPLICABILITY: (Minor Source Permit)

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? N/A

- *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.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
10 & 17 (Steam generating units)	Only recordkeeping applies	NSPS Subpart Dc
16 (gas tank)	HAPs	NESHAP Subpart CCCCC

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: (Minor Source Permit)

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

(Minor Source Permit)

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/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	0.2293	0.0252	0.01	Yes
Arsenic	0.2293	0.0252	0.000656	Yes
Cadmium	0.01	0.0011	0.000278	Yes
Chromium, Hexavalent	0.05	0.0055	0.000305	Yes
Lead	0.05	0.0055	0.00144	Yes
Manganese	0.20	0.022	0.03	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 Division of Environmental Quality 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?
Manganese	2.0	0.138*	Yes

* Modeling completed for Permit #2058-AR-6, issued on 11/10/2011.

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
03, 08, 12A & 12B Scrubbers	Estimate by Pet accepted by ADEQ 12/2003	For each unit 0.1 lb/hr VOC 0.4 tpy VOC	Odor abatement only	@8760 hrs/yr each	SN-03 initial performance test 05/10/12: VOC: 0.06 lb/hr vs 0.10 SN-12B initial performance test 09/18/12: VOC: 0.1 lb/hr vs 0.10
04 & 13 Silos Loadout Shipping	AP-42 Table 9.9.1-2 (3/03) Grain Processing Facility – <u>Animal Feed Mills</u> – Feed Shipping	For each unit lb/ton meal PM = 0.0033 PM ₁₀ = 0.0008	Baghouses & RTO	N/A	@8,760 hrs/yr SN-04 @ <u>63,948 tons</u> meal produced/yr & 7.3 tph max SN-13 @ <u>70,080 tpy</u> & 8.0 tph max 4 silos w/bh routed to SN-03 5 loadout silos routed to RTO 6 meal silos equipped w/ bh re-routed back to silos.
07 & 15	AP-42 Table 9.9.1-1 (3/03) Grain Elevator – Head house and grain handling	For each unit lb/ton meal PM = 0.061 PM ₁₀ = 0.034	None	None	Meal Handling – @8,760 hrs/yr SN-07 @ <u>63,948 tons</u> meal produced/yr & 7.3 tons/hr max SN-15 @ <u>70,080 tons</u> meal produced /yr & 8.0 tons/hr max
10, 17, 18	AP-42 Tables 1.4-1 & 1.4-2* (07/98) +HAPs SN-10 Vendor Guarantee for NO _x & CO EF http://boilerspec.com/speci-fire_pdf/csi/2006/Section%20E/E-Emissions.pdf ¹	For each unit lb/MMscf PM/PM ₁₀ – 7.6 SO ₂ – 0.6 VOC – 5.5 *CO – 84 *NO _x – 100	SN-10 & 17 identical w/ Ultra Low NO _x Burners SN-18 RTO VOC control device	N/A	Natural gas is <u>only</u> fuel used @ 8,760 hrs/yr SN-10 & 17 Boilers ¹ = 73.6 MMBtu/hr SN-18 RTO = 2.3 MMBtu/hr ¹ from Cleaver-Brooks manual 50 ppm CO / 1370 ¹ =

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		<p><u>SN-10 & 17</u> Ultra Low NO_x Burners CO – 50 ppm = 36.72 lb/MMscf NO_x – 30 ppm = 40.8 lb/MMscf</p>			<p>0.036 lb/MMBtu * (MMBtu/1000000 btu) * 1020 BTU/scf = 0.00003672 lb/scf * 1000000 scf/MMscf = <u>36.72 lb/MMscf</u> 30 ppm NO_x / 850¹ = 0.0176 lb/MMBtu (vendor doubled) 0.02 = 0.040 lb/MMBtu * (MMBtu/1000000 btu) * 1020 BTU/scf = 0.000041 lb/scf * 1000000 scf/MMscf = <u>40.8 lb/MMscf</u></p>
16	TANKS 4.0.9d	1 turnover /wk	N/A	N/A	Gasoline Storage Tank 290 gallon capacity
19	AP-42 Table 9.9.1-1 (Meat rendering plants)	0.061 lb PM/ton; 0.034 lb PM ₁₀ /ton			
	AP-42 Chapter 1.4 (Natural Gas Combustion)	lb/MMscf 7.6 PM 7.6 PM ₁₀ 84 CO 100 NO _x 0.6 SO ₂ 5.5 VOC			

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
No testing this permit action.				

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)
Facility-wide	Differential Air Pressure (Maintain Negative Pressure <i>inside</i> Process Building	Smoke test, anemometer, Differential Air Gauge or other approved method	Monthly	No
03, 08, 12A/B	ORP	ORP Monitor	Continuous	No
12A/B	Inlet Gas Temperature	Temperature Gauge	Continuous, alarm if temp. exceeded	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)
10	Notification of NSPS Subpart Dc	None	As occurs	Yes, complete
17	Notification of NSPS Subpart Dc	Various Due within 30-days after per GC #3 & §60.48c	As occurs	Yes
10 & 17	Quantity of natural gas consumed per boiler	Use separate flow meter or calculations as a percent of operating hours	Monthly	No
10	Initial Performance Test for CO & NO _x , dated 09/18/2012	Maintain copy on site	Once	Yes, complete
10, 17 & 18	Quantity of natural gas consumed per boiler	Recordkeeping NSPS Subpart Dc	Monthly	No
17 & 18	Submit notification date of construction, anticipated startup, actual startup and designed heat input capacity combusted fuel	---	Once, complete for SN-10 only	Yes
Facility-wide	Performance Tests	N/A	Keep for 5-years or until next test	Yes
04 & 07	West Meal	63,948 tons meal produced per	Monthly	No

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Handling/Loadout	rolling 12 months		
13 & 15	East Meal Handling/Loadout	70,080 tons meal produced per rolling 12 months	Monthly	No
Facility-wide	Whole Hogs	Only poultry by-products processed + Whole Hogs	Monthly	No
03, 08, 12A/B Wet Scrubbers	Oxidant Solution Flow Rate	SN-03 = 787 gal/min SN-08 = 240 g/m SN-12A/B = 394 g/m	Continuous	No
	ORP	Minimum 200 mV	Continuous	No
	Malfunction/ failure of op parameters (temp, pH range, etc) <i>must</i> emit audio alarm.	General duty to perform corrective actions as soon as practicable to minimize emission exceedances and must record. Each failure/alarm must be recorded with scrubber SN, date, time, cause(s), method(s) of resolution, and op	As-occurs	No
12A/B	Inlet Gas Temp.	Maximum 100 °F	Continuous	No
Facility	Building Interior – Negative Air Pressure Required	If positive pressure detected, immediately take action to identify cause, implement corrective action, and document corrective action.	Monthly or as needed	No
16	Gasoline usage	≤10,000 gallons /mo and ≤15,000 gal/rolling 12 mos	Monthly	No
19	Tons of final product	26,280 tons per rolling 12 month period	Monthly	No

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
10, 17, 18 & 19	5%	§18.501 and A.C.A. (natural gas only)	Annual E&E Inspection
04, 07, 13 & 15	5%	§18.501 and A.C.A.	

20. DELETED CONDITIONS:

Former SC	Justification for removal
11 through 28	Specific conditions were specific to SN-06. SN-06 was removed with this revision.

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 ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
One 1,200 gallon diesel tank	A-3	-	-	0.0085	-	-	-	-
One 640 gallon diesel tank	A-3	-	-	0.00046	-	-	-	-
One 1,000 gallon diesel tank	A-3	-	-	0.00037	-	-	-	-
One 300 gallon diesel mobile tank	A-3	-	-	0.00032	-	-	-	-
Summary A-3				0.002				
Blood Dryer, 4 MMBtu/hr	A-1	0.2	0.1	0.1	1.5	1.8	0.04	0.04

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 #
2058-AR-9

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

