

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1765-AR-1 AFIN: 54-00160

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Helm Fertilizer Helena Terminal
645 Phillips 422 - Slack Water Harbor
Helena-West Helena, Arkansas 72342

3. PERMIT WRITER:

Lauren Featherston

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Nitrogenous Fertilizer Manufacturing
NAICS Code: 325311

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
9/17/2018	Significant Modification	New emissions calculations and new updated sources

6. REVIEWER'S NOTES:

New emission calculations are based on the Aggregate Handling and Storage Piles AP-42 as emission from fertilizer terminals do not have a specific set of emission factors. Some Industrial Wind Erosion emission factors are also thrown in as well for the outside conveyor leading from the barge (unloading point) to the dry storage warehouse. Calculations for unpaved roads on site are included as well as emissions from two over 3.5 million gallon tanks used for liquid fertilizer storage.

The permitted annual emissions have increased by 15.1 tpy of PM, 3.6 tpy of VOC, 0.02 tpy of Ammonia, and 4.34 tpy of Ammonium Nitrate. The permitted annual emissions have decreased by 14.3 tpy of PM₁₀.

7. COMPLIANCE STATUS:

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

This facility was last inspected on May 2, 2017. At the time, several compliance issues were found including unpermitted sources and exceedances of the overall facility throughput. This led to a Consent Administrative Order (CAO) effective on January 10, 2018. Part of the CAO conditions ordered the facility to submit a permit modification to address the previous changes at the facility within 60 days of the effective date of the CAO. This was done well after that date on April 25, 2018. This initial submission was terminated later that year, on August 15, 2018, after multiple letters of deficiency were sent from ADEQ and the facility never responded. This facility was given an additional 30 days to submit a new permit application before new civil penalties were applied. This permit application was submitted on September 19, 2018. It seeks to address the other requirements of the CAO which are to increase the PM/PM₁₀ emissions rate limit, increase the maximum Production/Operation Rates limit, and to incorporate the twelve unpermitted sources.

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*

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)
N/A		

10. 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 Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N
 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
N/A		

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. 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:

Based on Department procedures for review of non-criteria pollutants, emissions of non-criteria pollutants are below thresholds of concern.

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: This facility does not emit H₂S.

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	20 parts per million (5-minute average*)		
	80 parts per billion (8-hour average) residential area		

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
	100 parts per billion (8-hour average) nonresidential area		

*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 1-hour average concentration

t_m = 60 minutes

t_p = 5 minutes

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
“Inside” Sources: 06, 07, 09, 11, 13, 15, 17, 19, 21, 23, 27-37, 39, 41, 43, 45, 47, 49, 53-64	AP-42 Chapter 13.2.4	PM: 9.62E-04 lb/ton PM ₁₀ : 3.86E-04 lb/ton	None	None	K _{PM} =0.74 K _{PM10} =0.35 U=2.2mph M=2%
“Outside” Sources: 01-05, 08, 10, 12, 14, 16, 18, 20, 22, 24-26, 37, 40, 42, 44, 46, 48, 50-52, 65	AP-42 Chapter 13.2.4	PM: 7.64E-03 lb/ton PM ₁₀ : 3.61E-03 lb/ton	None	None	K _{PM} =0.74 K _{PM10} =0.35 U=12.3mph M=2%
Wind Emissions on Continuously Active Piles 03	EPA Control of Open Fugitive Dust Sources	PM: 10.225 lb/day*acre PM ₁₀ : 5.113 lb/day*acre	None	None	S=6 P=100 T=20 PM ₁₀ /TSP ratio=50% A=1575ft ²
66	Unpaved Roads	PM: 6.41 lb/VMT PM ₁₀ : 1.49 lb/VMT	None	Control Efficiency of 44 % based on WRAP guidelines	A,b,k=varies S=3% W=27 tons VMT=27,66 6 miles/yr VMT=76

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
				which account for vehicle speeds on unpaved roads of 25 mph or less at the site	miles/day
67, 68	TANKS Emissions Calculations	Varied	None	None	

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

15. 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				

16. 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-Wide	Dry Fertilizer Throughput	175,000 tons per year	Monthly	N
67, 68	Nitrogen Solution Throughput	7,233,273 gallons per year	Monthly	N

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
Facility-Wide	20%	19.503	Inspector Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

19. 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
1000 Gallon Diesel Tank	A3	-	-	<0.1 tpy	-	-	<0.1 tpy	<0.1 tpy

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1765-A

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: Helm Fertilizer
 Terminal
 Permit Number: 1765-AR-1
 AFIN: 54-00160

			Old Permit	New Permit
\$/ton factor	23.93	Permit Predominant Air Contaminant	35.2	50.3
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	15.1	
Minimum Initial Fee \$	500			
Check if Administrative Amendment	<input type="checkbox"/>	Permit Fee \$	400	
		Annual Chargeable Emissions (tpy)	50.3	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	35.2	50.3	15.1
PM ₁₀	35.2	20.9	-14.3
PM _{2.5}	0	0	0
SO ₂	0	0	0
VOC	0	3.6	3.6
CO	0	0	0
NO _x	0	0	0
Ammonia	0	0.02	0.02
Ammonium Nitrate	0	4.34	4.34