STATEMENT OF BASIS

For the issuance of Air Permit # 1227-AOP-R9 AFIN: 70-00039

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Martin Operating Partnership L.P.
484 East 6th Street
Smackover, Arkansas 71762

3. PERMIT WRITER:

Alexander Sudibjo

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Petroleum Lubricating Oil and Grease Manufacturing
NAICS Code: 324191

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
5/30/2024	Minor Mod	Increased lube oil throughput
6/4/2024	Minor Mod	New boiler

6. REVIEWER'S NOTES:

With this minor modification, the facility is increasing the throughput of treated lube oil at SN-27i to 210,000,000 gallons per rolling 12 month period and installing a 119.3 MMBtu/hr natural gas rental boiler (SN-49) to provide steam to the facility while Boiler #4 (SN-26) is undergoing repair work. The facility's permitted annual emissions are increasing by 3.9 tpy PM/PM_{10}, 0.4 tpy SO_2, 3.0 tpy VOC, 43.1 tpy CO, 18.9 tpy NOx, 0.01 tpy benzene, and 0.97 tpy total HAPs.

7. COMPLIANCE STATUS:

As of June 4, 2024, there are no compliance issues with the facility. ECHO (https://echo.epa.gov/detailed-facility-report?fid=110038160584) shows no air violation identified as of April 11, 2024.

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?

b) Is the facility categorized as a major source for PSD? Y
- *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. The emissions increases related to this project are below the significant emission rates.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-12	H_2S	NSPS Subpart J
SN-02 SN-40	H_2S	NSPS Subpart Ja
SN-27c		NSPS Subpart UU
SN-24		NSPS Subpart QQQ
SN-41 SN-43 SN-48	HAPs	NSPS Subpart IIII
SN-42	HAPs	NESHAP Subpart ZZZZ
SN-27g	HAPs	NESHAP CCCCCC
SN-40	H_2S	Compliance Assurance Monitoring, Subchapter C, §64
Facility	Benzene	NESHAP Part 61, Subpart FF

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
SN-49	Issuance of 1227-AOP-R9	N/A	N/A	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.)

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

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
SN-40	VOC	Continuous operation of a flare monitored using a thermocouple, an ultraviolet sensor or any other equivalent device to detect the presence of a flame and alarm system to notify the operator of the presence of a pilot flame or other possible flare malfunction.

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 following 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/m^3), 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?
Cadmium	0.002	0.00022	0.000242	No
Hydrogen Sulfide	1.39	0.01529	0.74	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 ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Cadmium	0.02	0.00039	Yes
Hydrogen Sulfide	13.9	8.21	Yes

c) H_2S 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 H_2S Standards Y
If exempt, explain: this facility is exempt from the H_2S standards because they are subject to 40 C.F.R. § 60 Subpart J – *Standards of Performance for Petroleum Refineries*

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 02 03 08 12 30	AP-42, Section 1.4 Table 1.4-1, 1.4-2, 1.4-3, 1.4-4	<u>Lb/MMscf</u> PM/PM_{10}:7.6 SO_2: 26.9 (hourly) SO_2: 10.0 (annual) VOC: 5.5 CO: 84 NOx: 100 Benzene: 2.1E-03 Cadmium: 1.1E-03			SO_2 emission factor based on H_2S limit of 162 ppmv assuming 100% conversion to SO_2 SN-08, & 30 use low NO_x EF of 50 lb/MMcf and SO_2 EF of 0.6 lb/MMcf
14	AP-42 Section 5.2, 7.1 & Raoult's Law	VOC: 0.0157 lb/1,000 gal Benzene: 1.96E-03 wt. fraction			VOC emissions based on loading loss calculations in AP-42 section 5.2, Equation 1.
15 16 32 33	AP-42 5.2 & EPA Emission Estimation Protocol for Petroleum Refineries	<u>Asphalt Loading</u> VOC: 0.0814 lb/1,000 gal Benzene: 3.33E-01 wt. fraction <u>Black Oil Loading</u> VOC: 0.0704 lb/1,000 gal Benzene: 3.33E-01			VOC emissions based on loading loss calculations in AP-42 section 5.2, Equation 1.
17 18 21	AP-42 5.2 and Raoult's Law	VOC: 0.0071 lb/1,000 gal Benzene: 2.28E-03 wt. fraction			VOC emissions based on loading loss calculations in AP-42 section 5.2, Equation 1.
23	EPA Emission Estimation Protocol for Petroleum Refineries				

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
24	RWETv2.1	2.38 lb VOC/hr 0.03 lb Benzene/hr 0.74 lb H_2S/hr			
26	Vendor Guarantee AP-42, Section 1.4 Table 1.4-1, 1.4-2, 1.4-3, 1.4-4	Lb/MMscf PM/PM_{10}:7.6 SO_2: 0.6 VOC: 5.5 CO: 84 NOx: 40 Benzene: 2.1E-03 Cadmium: 1.1E-03			
27a Thru 27l, 28 29	Tanks 4.0.9d, Site Specific Data, EPA Emission Estimation Protocol for Petroleum Refineries, and Raoult's Law				Throughput: 27i: 210,000,000 gal/yr
34	AP-42 5.2, 7.1, Emission Estimation Protocol for Petroleum Refineries, & Raoult's Law	Paraffinic Oil Loading VOC: 0.0009 lb/1,000 gal Benzene: 3.33E-01 Lube Oil Loading VOC: 0.0088 lb/1,000 gal Benzene: 2.28E-03			VOC emissions based on loading loss calculations in AP-42 section 5.2, Equation 1.
40	AP-42 Table 1.4-2,3 & 13.5-1,2, Emission Estimation Protocol for Petroleum Refineries	Refinery Gas SO_2: 26.73 lb/MMscf VOC: 0.66 lb/MMBtu CO: 0.31 lb/MMBtu NO_x: 0.07 lb/MMBtu H_2S: 0.14 lb/MMscf Benzene: 9.0E-06 tons/yr/bbl/cd Pilot Natural Gas PM/PM_{10}: 7.6 lb/MMscf SO_2: 0.6 lb/MMBtu VOC: 5.5 lb/MMscf CO: 0.37 lb/MMBtu NO_x: 0.068 lb/MMBtu Benzene: 2.1E-03 lb/MMscf Cadmium: 1.1E-03 lb/MMscf			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
41 43	Vendor Specs & AP-42, Table 3.3-1,2	<u>g/hp-hr</u> PM/PM_{10}: 0.118 CO: 1.42 NOx: 2.20 <u>lb/MMbtu</u> SO_2: 0.29 VOC: 0.35 Benzene: 9.33E-04			
42	AP-42 Table 3.3-1,2	<u>Lb/MMBtu</u> PM/PM_{10}: 0.310 SO_2: 0.29 VOC: 0.35 CO: 0.95 NOx: 4.41 Benzene: 9.33E-04			
45	AP-42 5.2, 7.1, & Raoult's Law	VOC: 0.0088 lb/1,000 gal Benzene: 2.28E-03			VOC emissions based on loading loss calculations in AP-42 section 5.2, Equation 1.
46	AP-42 13.2.1 Equation 2	<u>Paved</u> k=0.011 (PM) k=0.0022 (PM_{10}) sL=10 P=105 N=365 <u>Unpaved</u> a=0.7(PM), 0.9(PM_{10}) b=0.45(PM/PM_{10}) k=4.9 (PM) k=1.5 (PM_{10}) sL=7 P=105 N=365	Facility policies to limit road emissions	50%	
47	AP-42 5.2, 7.1, Emission Estimation Protocol for Petroleum Refineries	VOC: 0.0071 lb/1,000 gal Benzene: 3.33E-01			VOC emissions based on loading loss calculations in AP-42 section 5.2, Equation 1.

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
48	EPA Tier 2 & AP-42 Table 3.4-1,3	g/hp-hr PM/PM_{10}: 0.15 CO: 2.61 NOx: 4.77 lb/MMbtu SO_2: 0.0015 VOC: 9.0E-02 Benzene: 7.76E-04			
46	AP-42 Table 13.2.1-1	PM: 0.196 lb/VMT PM_{10}: 0.039 lb/VMT			
49	AP-42, Section 1.4 Table 1.4-1, 1.4-2, 1.4-3, 1.4-4	Lb/MMscf PM/PM_{10}: 7.6 SO_2: 0.6 VOC: 5.5 CO: 84 NOx: 40 Benzene: 2.1E-03 Total HAPs: 1.89	N/A	N/A	119.3 MMBtu/hr 1,020 Btu/scf

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
Facility Waste Stream	Benzene	8020, 8021 8240, 8260 602, or 624	Monthly	Required in order to prevent triggering of record keeping requirements in 40 CFR Part 61, Subpart FF

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)
40	Pilot Flame	Thermocouple, ultraviolet sensor, or equivalent device	Continuously	Y
		Alarm		

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	Crude Oil	7,700 bbl/day	Monthly	Y
14	Distillate	26,219,328 gal/yr	Monthly	Y
15, 16	Black Oil	19,987,800 gal/yr	Monthly	Y
	Asphalt	9,240,000 gal/yr	Monthly	Y
17, 18, 21	Lube Oil	97,885,008 gal/yr	Monthly	Y
23	Fugitive Equipment Count	N/A	Annual	Y
27a	Refinery Additives	150,000 gal/yr	Monthly	Y
27b	Additives	500,000 gal/yr	Monthly	Y
27c	Asphalt	19,987,800 gal/yr	Monthly	Y
27d	Black Oil	9,240,000 gal/yr	Monthly	Y
27e, 28	Crude Oil	118,041,000 gal/yr	Monthly	Y
27f	Untreated Distillate	26,219,328 gal/yr	Monthly	Y
27g	Gasoline	24,066 gal/yr	Monthly	Y
27h	Untreated Lube Oil	82, 628,700 gal/yr	Monthly	Y
27i	Treated Lube Oil	210,000,000 gal/yr	Monthly	Y
27j, 29	Treated Lube Oil	60,000,000 gal/yr	Monthly	Y
	Paraffinic Oil	9,500,000 gal.yr	Monthly	Y
27k	Reclaimed Oil	4,035,229 gal/yr	Monthly	Y
27l	Treated Distillate	26,219,328 gal/yr	Monthly	Y

SN	Recorded Item	Permit Limit		Frequency	Report (Y/N)
29	Crude Oil	5,000,000 gal/yr		Monthly	Y
Storage Tanks	Vapor Pressure Documentation	Material	Vapor Pressure (psia)	As Needed	N
		Additive	0.009 @ 70° F		
		Asphalt	0.0098 @ 302° F		
		Crude Oil	0.1802 @ 77° F		
		Distillate (not heavy condensate)	0.0111 @ 77° F		
		Gasoline	9 RVP		
		Lube Oil	0.0021 @ 77° F		
41, 42, 43, 48	Hours of Operation	500 hours per calendar year		Monthly	Y
41, 42, 43, 48	Hours of operation	Maintenance Check: 100 hours/year Non-emergency: 50 hours/yr		As Needed	N
45	Lube Oil	24,300,000 gallons/yr		Monthly	Y
47	Miscellaneous Intermediate Products	49,932,000 gallons/yr		Monthly	Y

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 03, 08, 12, 26, 30, 49	5%	Department	Burn Natural Gas
27c (Tanks 100 & 228)	0%	40 C.F.R. § 60.472(c)	Inspector Observation
41, 42, 43, 48	20%	Department	Annual Observation
40	0%	Department	Daily 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
4,500 gal Diesel Tank for SN-48	A-3			1.62E-03				
Decant Tanks 1 through 4 (7,644 gallons each)	A-3			2.06E-02 (total)				
Tank #312 (Caustic)	A-4	Caustic storage tanks that contain no VOC.						
Tank #313 (NaHS)	A-4							
Tank #314 (NaHS)	A-4							
Tank #400 (Caustic)	A-4							
Tank #402 (Caustic)	A-4							
Lab Equipment	A-5			2.87				2.87
Asphalt Tank Heater	A-13	0.33	0.03	0.24	3.61	4.29	0.08	0.09
Miller's Bluff Paraffin Oil Truck Loading	A-13			1.16			0.39	1.27
210,000 gal Sour Water Stripper Surge Tank	A-13			0.64				0.64
Packaging Plant – Plastic Extrusion	A-13	0.99		0.65			0.04	0.09
Packaging Plant – Six Plastic Silos	A-13	0.02						
Lube Oil Packaging Plant Operations	A-13			0.21			0.08	0.23
Cooling Tower No. 1	A-13	0.046						
Cooling Tower No. 2	A-13	0.061						
A-13 TOTAL		1.44	0.03	2.90	3.61	4.29	0.57	1.67

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 #
1227-AOP-R8

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Martin Operating Partnership L.P.
Permit Number: 1227-AOP-R8
AFIN: 70-00039

$/ton factor	28.14	Annual Chargeable Emissions (tpy)	320.62
Permit Type	Minor Mod	Permit Fee $	500

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)	26.2
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		26	29.9	3.9	3.9	29.9
PM_{10}		12.1	16	3.9		
$PM_{2.5}$		0	0	0		
SO_2		7.4	7.8	0.4	0.4	7.8
VOC		186.4	189.4	3	3	189.4
CO		92.9	136	43.1		
NO_X		74.5	93.4	18.9	18.9	93.4
Benzene	☐	3.42	3.43	0.01		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Total HAPs	[ ]	16.73	17.7	0.97		
Acetone	[x]	0.12	0.12	0	0	0.12
H2S	[ ]	3.25	3.25	0		
	[ ]	0	0	0		
	[ ]	0	0	0		
	[ ]	0	0	0		
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