

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 2022-AR-9 AFIN: 60-01801

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Lexicon, Inc.
8900 Fourche Dam Pike
Little Rock, Arkansas 72206

3. PERMIT WRITER:

Sarah Neoh

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Fabricated Structural Metal Manufacturing
NAICS Code: 332312

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
6/6/2023	DeMinimis	<ul style="list-style-type: none">• Removing individual limit for SN-01E• Increasing the daily bubbled limit for SN-01E and SN-02B to 36,000 lb/day.• Increasing the annual throughput limit for SN-01E and SN-02B to 10,000,000 lb/yr.

6. REVIEWER'S NOTES:

Lexicon operates a structural steel fabrication shop located at 8900 Fourche Dam Pike in Little Rock, Pulaski County, Arkansas. This application was submitted as a de minimis change to Permit No. 2022-AR-8:

- Removing individual limit for SN-01E
- Increasing the daily bubbled limit for SN-01E and SN-02B to 36,000 lb/day.
- Increasing the annual throughput limit for SN-01E and SN-02B to 10,000,000 lb/yr.

Permitted emissions will be decreasing by -3.4 tpy PM and -1.7 tpy PM₁₀.

7. COMPLIANCE STATUS:

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

A CAO was issued April 6, 2022 (CAO LIS: 22-013), to address the findings of an inspection conducted at the facility August 21, 2020.

During the inspection, the following areas of concern were noted:

Specific Conditions 14 and 15:

The permittee failed to provide daily records for indoor blasting (limit 16 hrs/day), machining (limit 16 hrs/day), and media blasting (limit 10,375 lb/day) from 2022-AR-7 permit issuance on May 1, 2018, through June 2020, and failed to provide daily welding records in format demonstrating that the permittee was below the daily limit of 16 hrs/day.

Specific Conditions 30:

The permittee provided maintenance records for SN-03 for the inspection period. The permittee failed to perform an oil change at SN-03 within one (1) year of the previous oil change performed on April 23, 2019. Maintenance is scheduled for September 2020, but has not been performed at the time of submittal of this report.

Specific Conditions 45:

The permittee failed to perform VEs from permit issuance, May 1, 2018, through November 17, 2019, at SN-02B. The permittee began performing daily, weekly, and monthly visible emission (VE) determinations per NESHAP XXXXXX requirements and no visual emissions were observed during those readings. However, the permittee failed to provide the quarterly VE determination due no later than three (3) months after the last VE determination, or May 17, 2020. Mr. Patterson indicated that he was placed in remote status on March 20, 2020, due to the COVID-19 pandemic and returned to the office on June 8, 2020. During that time, no VE determinations were performed. Blasting was performed Week #1 of June, but no VE determinations were made at that time and blasting was not conducted for the remainder of June 2020 or in July 2020. Mr. Patterson

indicated that request will be made to member of upper management in order to require notification of blasting for VE determination purposes

Specific Condition 52:

The permittee failed to submit the NESHAP XXXXXX annual compliance certification (ACC) due by January 31, 2019. The permittee submitted the NESHAP XXXXXX ACC due January 31, 2020, on January 29, 2020. The ACC indicated that there were no changes or additions to the processes at the facility applicable to NESHAP XXXXXX and that facility is complying with NESHAP XXXXXX requirements. However, the facility failed to perform VE determinations, as required by NESHAP XXXXXX, from May 1, 2018, through November 17, 2019.

General Condition 5:

The permittee failed to keep records for five years to enable the Department to determine compliance with the terms of this permit. Records according Specific Conditions 14 and 15 were not maintained by the facility during the inspection period.

CAO LIS: 22-013, and the requirements therein, serve to correct the aforementioned areas of concern.

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)
04	HC, NO _x , CO, PM	NSPS 60 Subpart IIII
05	HC, NO _x , CO, PM	NSPS 60 Subpart JJJJ
03, 04, 05	HAPs	NESHAP Subpart ZZZZ
Facility	HAPs	NESHAP 63 Subpart XXXXXX

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: N/A
12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY: 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 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) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Antimony Compounds	0.5	0.055	0.00161	Y
Arsenic Compounds	0.01	0.0011	0.0000915	Y
Beryllium Compounds	0.00005	0.00000055	0.0000922	N
Cadmium Compounds	0.01	0.0011	0.0000102	Y

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Chromium Compounds	0.5	0.055	0.00882	Y
Cobalt Compounds	0.02	0.0022	0.0000915	Y
Hexamethylene-1,6-Diisocyanate	0.0344	0.00378	0.0274	N
Lead Compounds	0.05	0.0055	0.00117	Y
Manganese Compounds	0.02	0.0022	0.0395	N
Phosphorus	0.1	0.011	0.000915	Y
Selenium Compounds	0.2	0.022	0.000915	Y

2nd Tier Screening (HEM4)

HEM4 Modeling

Lexicon used the Human Exposure Model for Single and Multiple Facility Exposure and Risk Modeling (HEM4) Version 4.1 to assess the site specific risk of the predicted ambient concentrations for beryllium compounds, manganese compounds, and hexamethylene-1,6-diisocyanate. Per the HEM4 User's Guide, HEM4 is a streamlined, but rigorous tool that can be used to estimate ambient concentrations, human exposures and health risks that may result from air pollutant emissions from complex industrial facilities. HEM4 was designed for use by the U.S. Environmental Protection Agency (EPA), states, local agencies, industry, and other stakeholders, and is currently used in the Risk & Technology Review (RTR) assessments by EPA of regulated source categories. HEM4 is used to model emissions and the resulting ambient concentrations to predict the potential exposures and inhalation health risks posed by emissions.

HEM4 uses the Chemical Health Effects Library of pollutant unit risk estimates (UREs) and reference concentrations (RfCs) to calculate population cancer risks and noncancer health hazards, respectively. These UREs and RfCs are based on the latest values recommended by the EPA for hazardous air pollutants (HAP) and other toxic air pollutants.

HEM4 estimates the predicted lifetime cancer risk, chronic non-cancer hazard indices, and acute concentrations at every receptor location. The User's Guide states that, "The predicted risk estimates are generally conservative with respect to the modeled emissions because they are not adjusted for attenuating exposure factors (such as indoor/outdoor concentration ratios, daily hours spent away for the residential receptor site, and years of lifetime spent living elsewhere than current residential receptor site.)"

HEM4 computes cancer risks using the EPA's UREs for HAP and other toxic air pollutants. The resulting estimates reflect the risk of developing cancer for an individual breathing the ambient air at a given receptor site 24 hours per day over a 70-year lifetime. HEM4 estimates noncancer health hazards or "risk" using hazard quotients (HQs) and hazard indices for 14 "target" organs or systems. The HQ for a given pollutant and receptor site is the ratio of the ambient concentration of the pollutant to the RfC at which (and below which) no adverse effects are expected.

Compound	HEM4 Modeled Concentration (µg/m³)	RfC (mg/m³)	Below the EPA RfC Risk Value?
Beryllium Compounds	2.4e-07	2.0e-05	Y
Manganese Compounds	2.26e-04	3.0e-04	Y
Hexamethylene-1,6-Diisocyanate	1.17e-04	1.0e-05	N

The results of the assessment for all HAPs combined are as follows:

Type of Risk	HEM4 Modeled Concentration (µg/m³)	Converted Concentration (mg/m³)
Cancer risk	1.0e-07	1.5e-07
Respiratory HI	4	3.9
Liver HI	0	0
Neurological HI	0.2	0.2
Developmental HI	0	0
Reproductive HI	0	0
Kidney HI	0	0
Ocular HI	0	0
Endocrine HI	0	0
Hematological HI	0	0
Immunological HI	0	0
Skeletal HI	0	0
Spleen HI	0	0
Thyroid HI	0	0
Whole body HI	0	0

These results indicate that there are minimal predicted adverse impacts to the population living in the vicinity of Lexicon, Inc.

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
01A	2 paint guns @ 14 gal/hr each	8 lb/gal VOC 8 lb/gal HAP	None	N/A	None
01B	1 paint gun @ 14 gal/hr each	8 lb/gal VOC 8 lb/gal HAP	None	N/A	None
01C	1 paint gun @ 14 gal/hr each	8 lb/gal VOC 8 lb/gal HAP	None	N/A	None
01D	AP-42 Table 12.19-1	15.1 lb/1000 lb of welding consumables	Building	90%	Welding Operations
	AP-42 Table 13.2.6-1	41.1 lb PM/1,000 lb of sand 13 lb/1,000 lb sand 0.69 lb PM/1000 lb of abrasive			Indoor Blasting Operations
	National Pollutant Inventory (See Application)	23 g PM/PM ₁₀ /min per machine; 6.6 g NO _x /min per machine;	Baghouse	99%	Machining Operations
			Building	90%	
01E	AP-42, Table 13.2.6-1	41.1 lb PM/1,000 lb of sand			
	AP-42, Table 13.2.6-1	13 lb lb PM ₁₀ /1,000 lb of sand			
02A	2 paint guns @ 14 gal/hr each	8 lb/gal VOC 8 lb/gal/HAP	None	N/A	None
02B					
02B	AP-42 Table 13.2.6-1	27 lb/1,000 lb sand 13 lb/1,000 lb sand	Enclosure	75%	
03	AP-42, Table 3.3-1	6.68E-3 lb CO/hp-hr 0.031 lb NO _x /hp-hr 2.05E-3 lb SO ₂ /hp-hr 2.20E-3 lb PM/PM ₁₀ /hp-hr 2.51E-3 lb VOC/hp-hr			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
04	40 CFR Part 89 Subpart B, §89.112 Table 1	3.5 g CO/kW-hr			
	40 CFR Part 89 Subpart B, §89.112 Table 1	6.4 g NO _x +VOC			
	92.5% NO _x ; 7.5% VOC per ratio in AP-42, Table 3.3-1	5.92 g NO _x /kW-hr			
	92.5% NO _x ; 7.5% VOC per ratio in AP-42, Table 3.3-1	0.48 g VOC/kW-hr			
	AP-42, Table 3.3-1	2.05E-3 lb SO ₂ /hp-hr			
	40 CFR Part 89 Subpart B, §89.112 Table 1	0.2 g PM/PM ₁₀ /kW-hr			
05	40 CFR §90.103 Table 3	610 g CO/kW-hr			
	40 CFR §90.103 Table 3	11.3 g NO _x +VOC/kw-hr			
	AP-42, Table 3.2-3	11.2 g NO _x /kW-hr			98.7% NO _x ; 1.3% VOC per ratio
	AP-42, Table 3.2-3	0.15 g VOC/kW-hr			98.7% NO _x ; 1.3% VOC per ratio
	AP-42, Table 3.2-3	5.88E-4 lb SO ₂ /MMBtu			
	AP-42, Table 3.2-3	9.5E-3 lb PM/PM ₁₀ /MMBtu			

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
Facility	VOCs and HAPs	Should be performed by an independent lab while notifying the Department 7 days prior to.	At least quarterly.	To ensure compliance with credits per Specific Condition 9.

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	VOC lb/gal and ton/yr	8.0 lb/gal and 95.0 tons/yr	Monthly	N
Facility	HAP lb/gal and ton/yr; TLV	8.0 lb/gal and 23.75 tons per yr combination and 95 ton per yr single; TLV varies per lb/gal; HAPs outside of TLV Table must comply with equation in Specific Condition 15.	Monthly, daily and gallons HAP used per day.	N
01E and 02B	Abrasive material	10,000,000 lb per consecutive 12 month period and 36,000 lb/day	Daily	N
03, 04, 05	Hours of operation	500 hrs each annually	Monthly	N
01D	Welding	16 hrs/day	Daily	N
	Indoor Blasting	16 hrs/day		
	Machining	16 hrs/day		

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
Facility	Management practices of NESHAP XXXXXX	-	As required by subpart	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01D, 01E	5%	Rule 18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Inspector Observation
02B	5%	Rule 18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Inspector Observation
03, 04, 05	20%	Rule 19.503 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311	Inspector Observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
	None

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
Solvent Bulk Storage	A-13	-	-	-	-	-	-	-

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 #
2022-AR-8

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Lexicon, Inc.

Permit Number: 2022-AR-9

AFIN: 60-01801

			Old Permit	New Permit
\$/ton factor	28.14	Permit Predominant Air Contaminant	211.5	208.1
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	-3.4	
Minimum Initial Fee \$	500			
		Permit Fee \$	400	
Check if Administrative Amendment <input type="checkbox"/>		Annual Chargeable Emissions (tpy)	208.1	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	211.5	208.1	-3.4
PM ₁₀	69.3	67.6	-1.7
PM _{2.5}	0	0	0
SO ₂	0.7	0.7	0
VOC	95	95	0
CO	7.6	7.6	0
NO _x	12.7	12.7	0
Total HAPs	23.75	23.75	0