

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0996-AOP-R31 AFIN: 66-00041

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

ABB Motors and Mechanical Inc.
5711 R.S. Boreham Jr. Street
Fort Smith, Arkansas 72901

3. PERMIT WRITER:

Jacob Allen

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Motor and Generator Manufacturing
NAICS Code: 335312

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
9/5/2023	Minor Mod	Removal of SN-51

6. REVIEWER'S NOTES:

ABB Motors and Mechanical Inc. (AFIN: 66-00041), located at 5711 R. S. Boreham Jr. St. in Fort Smith, AR, manufacturers electric motors for industrial use. ABB plans to use a new paint additive that contains VOC greater than 7.0 lb/gal. The annual VOC and HAP emission limits will remain the same.

7. COMPLIANCE STATUS:

The facility was last inspected on May 2, 2023 there were no violations noted at this time. There were no violations listed in ECHO.

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)
All Diesel Generators (SN-33, SN-34, SN-35, SN-36, SN-40, SN-46 and SN-49)	HAPs	40 CFR 63 Subpart ZZZZ
New Diesel Generators (SN-33, SN-34, SN-35, SN-40, SN-46 and SN-49)	HAPs	40 CFR Part 60, Subpart IIII
Welding (SN-C) and Machining (SN-E)	N/A	40 CFR 63 Subpart XXXXXX
When complying with the HAP limits in this permit the facility will not be subject to Subpart MMMM.		

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 Rule 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? 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
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/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?
Manganese	0.1	0.011	0.00279	Yes

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-01a	Mass Balance	0.0484 gal/motor 1.3 lb VOC/gal	None	N/A	167 s/cycle 6 motors/cycle
SN-01b			None	N/A	
SN-01c	AP-42 1.4-3	<u>Units in lb/MMscf</u> PM/PM ₁₀ : 7.6 SO ₂ : 0.6 VOC: 5.5 CO: 84.0 NO _x : 100.0	None	N/A	4.0 MMBtu/hr
SN-02	Mass Balance/Testing	7.0 lb VOC/gal	None	N/A	0.017 gal/Motor 88.5 Motors/hr
SN-03			None	N/A	0.017 gal/Motor 88.5 Motors/hr
SN-05			None	N/A	0.022 gal/Motor 82.6 Motors/hr
SN-06			None	N/A	0.028 gal/Motor 77.5 Motors/hr
SN-07	Equipment capacity	7.0 lb VOC/gal	None	N/A	0.63 gal/hr
SN-11	Mass Balance/Testing	7.0 lb VOC/gal	None	N/A	0.017 gal/Motor 62.5 Motors/hr
SN-12			None	N/A	0.017 gal/Motor 62.5 Motors/hr
SN-31b	AP-42 1.4-3	<u>Units in lb/MMscf</u> PM/PM ₁₀ : 7.6 SO ₂ : 0.6 VOC: 5.5 CO: 84.0 NO _x : 100.0	None	N/A	1.8 MMBtu/hr (combined)
	Mass Balance	0.0484 gal/motor 1.3 lb VOC/gal			167 s/cycle 6 motors/cycle
SN-33	AP-42 Table 3.3-1	Units in lb/MMBtu	None	N/A	685 HP, 500 hours/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-34		PM/PM10: 0.31 SO2: 0.29 VOC: 0.36 CO: 0.95 NOx: 4.41	None	N/A	237 HP, 500 hours/yr
SN-35			None	N/A	685 HP, 500 hours/yr
SN-36			None	N/A	85 HP, 500 hours/yr
SN-39	Mass Balance/Testing	7.0 lb VOC/gal	None	N/A	0.017 gal/rotor 40 rotors/hr
SN-40	AP-42 Table 3.3-1	<u>Units in lb/MMBtu</u> PM/PM10: 0.31 SO2: 0.29 VOC: 0.36 CO: 0.95 NOx: 4.41	None	N/A	685 HP, 500 hours/yr
SN-41	Mass Balance/Testing	7.0 lb VOC/gal	None	N/A	77.5 motors/hr 0.028 gal/motor
SN-42			None	N/A	77.5 motors/hr 0.028 gal/motor
SN-44a&b	Mass Balance/Testing	0.0484 gal/motor 1.3 lb/gal VOC	None	N/A	158 cycles/hr 6 motors/cycle
SN-C	MSDS	HAP content: 7.5% Manganese:7.5% PM:5.2 lb/10 ³ electrode	None	N/A	35,000 lbs electrode/yr; 7.14 lbs electrodes/hr GMAW – ER70S
SN-E	N/A	Estimate based upon nature of process	Enclosed within building	N/A	
SN-46	AP-42 Table 3.3-1	<u>Units in lb/MMBtu</u> PM/PM10: 0.31 SO2: 0.29 VOC: 0.36 CO: 0.95 NOx: 4.41	None	N/A	80 HP, 500 hours/yr
SN-48	Mass Balance/Testing	7.0 lb VOC/gal	None	N/A	0.007 gal/Motor

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
					5.5 Motors/hr
SN-49	AP-42 Table 3.3-1 (for SO ₂ only) & Exhaust Emission Data (EPA Certificate Data)	SO ₂ : 2.05 E-03 lb/Hp-Hr PM/PM ₁₀ : 0.17 g/kW-Hr VOC: 0.15 g/kW-Hr CO: 1.3 g/kW-Hr NO _x : 3.4 g/kW-Hr	None	N/A	134.1 Hp, 100 kW, 500 hours/years
SN-50	MSDS	7.0 lb VOC/gal	None	N/A	0.028 gal/Motor 30 Motors/hr

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

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)
A	VOC Content	7.0 lb/gal	As needed	N
A	VOC Emissions	185.0 tpy	Monthly	Y
A	HAP Content	TLV > 1.0 μg/m ³	As received	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
B	VOC Content	1.3 lb/gal	As needed	N
B	VOC Emissions	50.0 tpy	Monthly	Y
Facility	HAP Emissions	Single HAP: 9.84 tpy Total HAPs: 23.94 tpy	Monthly	Y
C	Welding Wire HAP content	7.5% HAPs 7.5% Manganese	Continuous	N
C	Welding Wire Used	35,000 lb/yr	Monthly	N
C	Manufacturer's Instructions	N/A	Continuous	N
C	Management Practices	Minimum one from listed in SC#24	Continuous	N
C	Corrective action if visible emissions detected	See SC #25	As Needed	Y
C	All visual determination of opacity	No visible fugitive emissions	See SC #27	N
E	Manufacturer's Instructions	Operate according to instructions	Continuous	N
SN-33, SN-34, SN-35, SN-40, & SN-46	Fuel Type Used	Non-road Diesel only	As needed	N
SN-33, SN-34, SN-35, SN-40, SN-46, & SN-36	Maintenance Record & Manufacturer approved instructions	Changes must be permitted by manufacturer and engine must be maintained according to instructions	Continuous	N
SN-33, SN-34, SN-35, SN-40, & SN-46	If engine has a diesel particulate filter: Action taken if backpressure monitor alarm	N/A	As needed	N
SN-33, SN-34, SN-35, SN-40, SN-46, & SN-36	Hours of Operation and	500 hr/ calendar yr total	Each use	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Description of Use	100 hr/yr maintenance 50 hr/yr non-emergency		
SN-36	Maintenance	Oil and Filter: 500 hours or annual Air Cleaner: 1000 hours or annual Hoses and belts: 500 Hours or annual	As needed	N
SN-33, SN-34, SN-35, SN-40, SN-46, and SN-36	Opacity Observation data and corrective actions	20% Opacity	Daily	N
SN-49	Hours of Operation	500 hrs	12-month period	N
SN-49	Opacity Observation data and corrective actions	20% during the acceleration mode, 15% during the lugging mode, and 50% during the peaks in either the acceleration or lugging modes	Daily	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
B	5%	Reg.18.501	Use of Natural Gas
C	5%	Reg.18.501	Compliance with NESHAP XXXXXX
C	Any Visual Emissions	NESHAP XXXXXX	SC# 24 through #28
E	5%	Reg.18.501	Work Practices

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Electric Spray Washer with Natural Gas Burner (natural gas-fired, 0.44 MMBtu/hr) @ Bay #3	A-1	0.02	0.01	0.01	0.16	0.19	0.01	0.01
TTX Oven in 210 Area (natural gas-fired, 2.5 MMBtu/hr) @ Bldg. #2	A-1	0.09	0.01	0.06	0.91	1.08	0.03	0.03
TTX Oven (natural gas-fired, 2.5 MMBtu/hr) @ Bldg. #6	A-1	0.09	0.01	0.06	0.91	1.08	0.03	0.03
Burn Off Oven for Varnish Hooks (natural gas-fired, 0.475 MMBtu/hr) @ Bldg. #9	A-1	0.02	0.001	0.02	0.18	0.21	0.004	0.004
EPIKURE Curing Oven (electric) @ Bay #3	A-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Master Ring Heater @ Bldg. #2 (electric)	A-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A-1 TOTAL		0.29	0.071	0.22	2.89	3.31	0.114	0.114
Endplate Washer @ Bldg.#2 and Bay #3 (water vapor only)	A-13	Electric, water vapor only. No emissions						
Varnish Line Cooling Tunnel (TTX) @ Bldg. #2 and #6	A-13	Cooling Tunnel emissions are accounted for in painting operations						
Forty-nine (49) Mist Eliminators @ Bldg. #2, #7 and Bay #3	A-13	0.1	-	-	-	-	-	-

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Four (4) Laser Engravers @ Bldg. #3	A-13	0.1	-	-	-	-	-	-
Soldering Station @ Bldg. #2	A-13	0.04	-	-	-	-	0.04	0.04
Mold release usage @ Bldg. #2	A-13	0	0	1.0	0	0	0	0
Paint kitchen @ Bay #3 (accounted in SN-11 and SN-12)	A-13	Emissions accounted in SN-11 and SN-12						
Paint kitchen @ Bldg. #2 (accounted in SN-02, 03 and 05)	A-13	Emissions accounted in SN-02, 03 and 05						
Paint kitchen @ Bldg. #7 (account in SN-41, 42, 48 and 51)	A-13	Emissions accounted in SN-41, 42, 48 and 51						

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 #
0996-AOP-R30

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: ABB Motors and Mechanical Inc.
 Permit Number: 0996 - AOP - R31
 AFIN: 66 - 00041

\$/ton factor	27.27	Annual Chargeable Emissions (tpy)	263.5
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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	0
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		2.6	2.6	0		
PM ₁₀		2.6	2.6	0	0	2.6
PM _{2.5}		0	0	0		
SO ₂		1.9	1.9	0	0	1.9
VOC		237	237	0	0	237
CO		6.7	6.7	0		
NO _x		22	22	0	0	22
Manganese	<input type="checkbox"/>	0.01	0.01	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Total HAPs	<input type="checkbox"/>	23.94	23.94	0		
Single HAP	<input type="checkbox"/>	9.84	9.84	0		
Acetone	<input type="checkbox"/>	30	30	0		