STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1630-AR-8 AFIN: 16-00275

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

ABB Power Protection LLC d/b/a ABB Installation Products, Inc.
5601 E. Highland Drive
Jonesboro, Arkansas 72401

3. PERMIT WRITER:

Bart Patton

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Noncurrent-Carrying Wiring Device Manufacturing
NAICS Code: 335932

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
8/23/2018	De Minimis Mod	Add SN-55 Cable Tray Line

6. REVIEWER'S NOTES:

In this modification, the following changes were made:

- Add SN-55 Plasma Cutting (Cable Tray Process Line)

Annual emissions increased as follows: 8.2 tpy PM/PM_{10}, 4.5 tpy NO_x.

7. COMPLIANCE STATUS:

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

The facility was last inspected on June 7, 2017. No violations were identified. There are no current or pending CAOs or enforcement actions.

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/A

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)
None		

10. PERMIT SHIELD – TITLE V PERMITS ONLY:

Not applicable.

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:

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?
Hexavalent Chromium (water-soluble Cr VI compounds)	0.05	0.0055	0.000014	Yes

Modeling was last performed at R6.

No other modeling was required.

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
01	Material balance and gassing factors	4.291 tpy PM loss at 2600 op hr/yr Factor of safety = 1.3; Scaled up to 8,760 op hr/yr	Acid scrubber S-01A, Alkali scrubber S-01B	97%	With Factor of Safety =1.3, and scaled up to 8760 op hr/yr from 2600, 18.793 max tpy PM loss, uncontrolled. Recalculated at R6 for new control equipment. At the facility's request, limits were not lowered from previous levels.
03, 04, 17A/B, 21, 22, 26, 28, 35, 50	AP-42 Tables 1.4-1,2,3	NO_x = 100 lb/MMft^3, etc.	None	N/A	Combustion
09, 10	NYSDEC - Estimated Emissions Table A12-C	Gassing Factor = 3% to 5%	Scrubair Scrubbers 1, 2	90%	All HAPs below 1 tpy. For SN-09C, usage is 2.18 lb/hr Ammonium Chloride, 1.08 lb/hr Zinc Chloride. 2.18 x 5% gassing factor x (100%-90%) = 0.109 lb/hr Ammonium Chloride. 8,760 op hr/yr.
15	AP-42, tables 1.4-1, 2, and 3	**lb/MMscf** 7.6 PM/PM_{10} 0.6 SO_2 5.5 VOC 84 CO 100 NO_x	Baghouse	98%	2 x 1.1942 MMbtu/hr burners. 8,760 op hr/yr.

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
16			None	N/A	2 x 1.1942 MMbtu/hr burners. 8,760 op hr/yr.
23, 24, 25, 26, 27, 30, 35, 36, 38	Material Balances and MSDS	100% Evaporation 10% overspray	Donaldson Torit Cartridge for SN-27	90%	
28	Material Balances and MSDS	**For PM/PM_{10}** 85% coating transfer efficiency (for PM/PM_{10}) 88.39% solids **For volatiles** 100% evaporation, with 50% evaporated at coating and 50 % evaporated at curing 11.6% VOC 0.023% phenol 0.37% diethylene glycol monobutyl ether	Smog Hog	99.06% double-pass efficiency (PM/PM_{10} only)	265.58 lb/hr, max hourly PVC coating usage. 8760 op hr/yr.
29	Material Balances	100% Evaporation 4.8% Ethylbenzene 6.6% Xylene 28.81% Mineral Spirits 5.04% Diethylene Glycol Monomethyl Ether 5.04% Propylene Glycol Monomethyl Ether 15% Methyl Ethyl Ketoxime 11.06% Aliphatic Petroleum Distillate 56% VOC 14% PM_{10}	None	N/A	Max paint usage = 0.3 lb/hr. 8,760 op hr/yr.

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
30	Vendor info	Exhaust air flow: 10,900 dscfm Inlet Particulate Loading: 0.2 gr/dscf	Baghouse	95%	The source vents to a baghouse which vents indoors. 8,760 op hr/yr.
36	Material Balances and MSDS	**For volatiles** 100% evaporation, with 50% evaporated at coating and 50 % evaporated at curing 11.6% VOC 0.023% phenol 0.37% diethylene glycol monobutyl ether	None	N/A	39.35 lb/hr, max hourly PVC coating usage. 8760 op hr/yr.
36, 37	AP-42 Tables 1.4-1,2,3	NO_x = 50 lb/MMft^3	None	N/A	8760 op hr/yr. Low NO_x burners.
42	Engineering Estimate	0.2 gr/dscfm @6,700 dscfm	Baghouse	90%	
43	Engineering Estimate	2.43 lb/hr VOC			
45	AP-42, tables 1.4-1, 2, and 3	**lb/MMscf** 7.6 PM/PM_{10} 0.6 SO_2 5.5 VOC 84 CO 100 NO_x	None	N/A	0.66553 MMbtu/hr; 1000 MMbtu/MMscf; 8760 op hr/yr
47			Baghouse (PM/PM_{10} only)	98%	2 burners x 1.1942 MMbtu/hr; 1000 MMbtu/MMscf; 8760 op hr/yr
47	11/18/09 test data at Jonesboro site, concentration of Zinc Oxide in fumes in ambient air above kettle before entering collection hood	0.9466 mg ZnO / m^3 air	Baghouse	98%	15,290 cfm, max inlet gas flow to baghouse; included in limits as PM/PM_{10}

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
47	AP-42, Table 12.14-2 for Galvanizing, SCC 3-04-008-05	5 lb PM/ton Zinc used	Baghouse	98%	Max input 400 lb zinc/hr; Max input 750 tons zinc/yr; zinc ingots contain 0.03% lead, 0.02% cadmium
48	$SA_{exterior\ of\ pipe}$ = 34.689 ft^2	4 mil (0.004") exterior coating of zinc / pipe; assumed 0.5 mil of coating emitted as PM / pipe	Baghouse	98%	$SA_{exterior}$ = 2 x Pi x Outer Radius x Length; $SA_{exterior}$ = (6.625" OD) x (1'/12") x (1/2, convert OD to Outer Radius) x 20' pipe length; 445.74 lb/ft^3, density of zinc slab per MSDS; 400 pipes/hr, 8760 hr/yr
48	11/18/09 test data at Jonesboro site, concentration of Zinc Oxide in fumes in ambient air above kettle before entering collection hood	50% of SN-47's 0.9466 mg ZnO / m^3 air	Baghouse (SN-52)	98%	15,290 cfm, max inlet gas flow to baghouse; SN-48 process is some distance away from SN-47's zinc kettle, so 50% of SN-47's tested ZnO is assumed; included in limits as PM/PM_{10}

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
49	$SA_{interior\ of\ pipe}$ = 31.903 ft^2	4 mil (0.004") interior coating of zinc / pipe; assumed 0.5 mil of coating emitted as PM / pipe	Baghouse	98%	$SA_{interior}$ = 2 x Pi x Inner Radius x Length; $SA_{interior}$ = (Inner Diameter = 6.625" OD-(2 x 0.266" wall thk)) x (1'/12") x (1/2, convert ID to Inner Radius) x 20' pipe length; 445.74 lb/ft^3, density of zinc slab per MSDS; 400 pipes/hr, 8760 hr/yr
51	Industrial hygiene test of tank in operation	0.00006 mg/m^3 CrO_3 detected	None	N/A	2 x 31,500 cfm exhaust fans x 0.00006 mg/m3 CrO_3. Annual usage limit set by usage practices when tested.
52	Material Balances and MSDS	**Paint A** 0.833 gal/hr used 11.57 lb/gal 71.08 wt% solids 27.31 wt% VOC **Paint B** 0.417 gal/hr used 8.56 lb/gal 74.94 wt% solids 25.03 wt% VOC **MEK** 1.56 gal/hr used 6.71 lb/gal No solids 100 wt% VOC	Filter Panel	99.83%	For volatiles, 10% evap at mixing (SN-53) and 90% evap at painting (SN-52). For solids, 100% loss of PM/PM_{10} at painting (SN-52), 0% (SN-53), with transfer efficiency 85%.
53			None	N/A	

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
54	Eqpt/worker capacity	75% transfer efficiency 50% loss of airborne particulate	Filter Panel	95%	13.15 lb zinc wire max usage / hour.
55	"Emission of Fuse, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel," Bromssen et al, from EPA CHIEF archive, http://www3.epa.gov/ttn/chief/efdocs/welding.pdf	5.0% material removed is emitted as PM/PM_{10}	None	N/A	Plasma cutting emissions are described as a fraction of the material cut away. Facility cuts aluminum, but in absence of Al factors, steel factor was used. 410 in cut/min x 0.125 in wide x 0.125 in thick x 1080 in long/min x 0.097 lb steel/in^3 x 5% PM/PM_{10} x 60 min/hr. 8760 max op hr/yr. Facility expects 16 hr/month typical usage.
		5.5 L/minute, max NO_x emissions during plasma cutting, 92% NO, 8% NO_2			NO = 1.34 g/L. NO2 = 1.45 g/L (92% x 1.34) + (8% x 1.45) = 1.345 g/L. 5.5 L/min x 1.345 g/L x 1 lb/453.592 g x 60 min/hr. 8760 max op hr/yr.
02	Removed at R1				
06, 07	Removed at R2				
11, 12	Added to SN-13 at R3				

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncon-trolled, etc)
18, 19, 20, 39, 40	Removed at R3				
05, 08, 31, 32, 33, 34, 41, 44	Removed at R4				
13	Replaced by SN-45 at R5				
14	Replaced by baghouse at R5				
10, 35, 42, 46	Removed at R6				

Acetone strip tanks were added to the Insignificant Activities List at R6. The facility reports that maximum capacity is using 14 totes of acetone in 12 months, 2200 lb of acetone per tote. Tank 1 is drained into Tank 2, then refilled every day. All acetone is assumed emitted. These acetone emissions have not been counted for fee purposes or in the Total Allowable Emissions table in the permit. This decision may need to be reviewed during future permit revisions, particularly to avoid Title V status for the facility.

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

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)
None				

16. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Limit (as established in permit)	Frequency	Report (Y/N)
Plantwide	Coatings and Solvent usage; VOC and HAP contribution from natural gas combustion	99.0 tpy VOC	Monthly	N
		9.9 tpy Single HAP 24.9 tpy Combination HAP	Monthly	N
15, 16, 47	Zinc throughput	750 tons throughput per year	Monthly	N
51	Chromic acid usage	100 pounds per year of 100% (pure) chromic acid	Monthly	N

17. OPACITY:

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
09, 10, 23, 24	20%	§18.501. These are uncontrolled sources, or low efficiency controls, such as paint filters.	Inspector's Observation
All other sources	5%	§18.501	Inspector's Observation

18. DELETED CONDITIONS:

Former SC	Justification for removal
None	

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	Acetone	HAPs	
								Single	Total
24 natural gas-fired infrared heaters, 0.1 MMBtu/hr each	A-1	0.080	0.0063	0.058	0.883	1.052		0.0190	0.0198
Coupling Oven (Mold line of the Fittings process; 0.1 MMBtu/hr)	A-1	0.004	0.0003	0.003	0.037	0.044		0.0008	0.0009
Cure Oven (Mold line of the Fittings process; 0.1 MMBtu/hr)	A-1	0.004	0.0003	0.003	0.037	0.044		0.0008	0.0009
Pre-heat Oven (Powder line of the Fittings process; 0.1 MMBtu/hr)	A-1	0.004	0.0003	0.003	0.037	0.044		0.0008	0.0009

Source Name	Group A Category	Emissions (tpy)							
		PM/PM_{10}	SO_2	VOC	CO	NO_x	Acetone	HAPs	
								Single	Total
Cure Oven (Powder line of the Fittings process; 0.1 MMBtu/hr)	A-1	0.004	0.0003	0.003	0.037	0.044		0.0008	0.0009
Total A-1		0.094	0.0074	0.068	1.031	1.227		0.0221	0.0231
Injection Molding	A-13	Negligible emissions per R3 application							
Chemical Recovery Room Centrifuge Exhaust	A-13	Negligible emissions per R3 application							
Chemical Mix Process Exhaust	A-13	0.71							
Pipe Primer Pre-Heat Burners (two, 0.15 MMBtu/hr each)	A-13	0.01	0.0008	0.008	0.111	0.132		0.0024	0.0025
Inside Pipe Blow-Out Booth No. 1 and No. 2	A-13	1.16							
Acetone Strip Tanks (2)	A-13						15.4		
Total A-13		1.88	0.0008	0.008	0.111	0.132	15.4	0.0024	0.0025

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 #
1630-AR-7

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: ABB Power Protection LLC d/b/a ABB Installation Products, Inc.

Permit Number: 1630-AR-8

AFIN: 16-00275

			Old Permit	New Permit
$/ton factor	23.93	Permit Predominant Air Contaminant	196.94	196.94
Minimum Fee $	400	Net Predominant Air Contaminant Increase	0	
Minimum Initial Fee $	500			
		Permit Fee $	400	
Check if Administrative Amendment	☐	Annual Chargeable Emissions (tpy)	196.94	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	82.7	90.9	8.2
PM_{10}	82.7	90.9	8.2
$PM_{2.5}$	0	0	0
SO_2	2.3	2.3	0
VOC	99	99	0
CO	19.9	19.9	0
NO_X	22.6	27.1	4.5
Chromium Trioxide	0.01	0.01	0
Total HAP	24.9	24.9	0
Acetone	196.94	196.94	0