STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1966-AR-2 AFIN: 17-00016

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

AFCO Steel, LLC
600 South 28th Street
Van Buren, Arkansas 72956

3. PERMIT WRITER:

Andrea Sandage

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Fabricated Structural Metal Manufacturing
NAICS Code: 332312

5. ALL SUBMITTALS:

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
6/27/2017	Deminimis	No change in emissions

6. REVIEWER'S NOTES:

AFCO Steel, LLC is located in Van Buren (Crawford County) and manufactures structural steel members. This permit deminimis modification is being issued to include addition of a fabric filter to SN-05A, addition of an existing solvent recovery unit as an insignificant activity A-13, and update permit conditions for SN-01. The facility is unlikely to use any surface coating materials with compounds of higher toxicity and requests the conditions be modified to include daily recordkeeping only for those compounds. There are no changes in permitted emissions.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues. Inspection was conducted on May 17, 2017 and found to be in compliance. No pending actions.

8. PSD 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)
Facility-wide	MFHAP	40 CFR 63 Subpart XXXXXX

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

Non-Criteria Pollutants:

This permit contains a TLV formula for coating HAPs used at SN-01 with a TLV less than 1 mg/m^3. The materials shall not contain any MFHAPs. The equation is calculated based on the Presumptively Acceptable Emission Rate (PAER) as outlined in the Non-Criteria Pollutant Control Strategy. The PAER (in lb/hr) for a given HAP compound is defined as the TLV of that compound, expressed in mg/m3, multiplied by a factor of 0.11. This, along with the maximum allowable content of 8.0 lb/gal (VOC/HAP) for coatings and 1.0 lb/gal acetone content is used to establish the following relationship.

$$\text{Daily PAER (lb/day)} = 0.11 \times \text{TLV}_{TWA}(\text{mg/m}^3) \times 24 \text{ hr/day}$$

Modeling of specific non-criteria pollutants was not performed.

MFHAPs (SN-02, SN-03, SN-04, SN-05) – DeMinimis Levels

MFHAPs - Deminimis Levels	Potential to Emit (PTE) Plantwide (SN- 02/03/04/05) lb/hr	Plantwide TPY (lb/hr * 4.4)	RT	HAP above DeMinimis Level? PTE (TPY) > RT
Cr	0.0486524	0.2141	0.5000	No
Co	0.0000016	0.000007	0.0100	No
Mn	0.071061	0.3127	0.0800	Yes - add to ERT
Ni	0.0328731	0.1447	0.1000	Yes - add to ERT

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?
Mn	0.20	0.022	0.0711	Fail
Ni	1.5000	0.165	0.0329	Pass

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.

Modeling: 2006 – 2010 Fort Smith MET data – modeled 5 year – Used property boundary as fence line/plant boundary including ditch on north side of the facility. Welding and Cutting were volume sources.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Mn	2.00	1.6550	Pass

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	MSDS	VOC/HAP 8.0 lb/gal Acetone 1.0 lb/gal	None		4 spray guns rated at maximum spray rate of 30 gal/hr (120 gal/hr total)
02	Baghouse fabric filter	PM/PM_{10} 0.01 grains/ft^3	Baghouse	99%	Two baghouses rated at 9,300 and 7,100 cfm Wheelabrator Shotblaster (open on each end) operates under negative pressure & exhausts to baghouses
	Carbon Steel MSDS	HAPs lb/lb PM Cr 1.5% Mn 2.0 % Ni 1.0 %			
03	Baghouse fabric filter	PM/PM_{10} 0.01 grains/ft^3	Baghouse	99%	Maximum throughput of air = 17,200 cfm Pangborn Shotblaster (open on each end) operates under negative pressure & exhausts to baghouse
	Carbon Steel MSDS	HAPs lb/lb PM Cr 1.5% Mn 2.0 % Ni 1.0 %			
04	AP-42, 12.19 SMAW, E7018	lb/1000 lb electrode	none		Electrode usage rates from facility
		PM/PM_{10} 18.40 Cr 0.006 Co 0.001 Mn 1.03 Ni 0.002			1.6 lb/hr 3,500 lb/year
	SMAW, E8018	PM/PM_{10} 17.10 Cr 0.017 Co 0.000 Mn 0.03 Ni 0.051			Usage rate 2.4 lb/hr 5,000 lb/year
	FCAW, E70T	PM/PM_{10} 15.10 Cr 0.004 Co 0.000 Mn 0.891 Ni 0.005			Usage rate 5.5 lb/hr 11,520 lb/year

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	SAW, EM12K/all	PM/PM_{10} 0.05 Cr 0 Co 0 Mn 0 Ni 0			All SAW to use EM12K factors Usage rate 40.8 lb/hr 85,090 lb/year
05	FIU metal cutting document	PM/PM_{10} 0.031 lb/torch-hr	none		Respirable mass generation rate 235 mg/min for mild steel plate (worst case) 4 torches/bed = 0.124 lb/bed-hr
	Carbon Steel MSDS	HAPs lb/lb PM Cr 1.5% Mn 2.0 % Ni 1.0 %			
	EPA flame cutting document	NO_x 0.09 lb/torch-hr			4 torches/bed = 0.36 lb/bed-hr

13. TESTING REQUIREMENTS: none

14. MONITORING OR CEMS: none

15. 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)
01	Coating Usage	120 gal/hr	Monthly	N
	Coating VOC/HAP content	8.0 lb/gal	Daily	N
	Coating Acetone	1.0 lb/gal	Daily	N
	Acetone	2000 lbs/yr	Monthly	N
04	Electrode Usage	105,110 lb/yr	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
04	Visible Fugitive emissions	No visible emissions	Weekly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01 -05	20%	Regulation 19, §19.503	Weekly Observations

17. DELETED CONDITIONS:

Former SC	Justification for removal
Not Applicable	

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Diesel Storage Tanks (2 @ 250 gal each)	A-3			9.5 E-05				
Solvent Recovery Unit (emissions included in SN-01)	A-13							

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1966-AR-1

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: AFCO Steel, LLC
Permit Number: 1966-AR-1
AFIN: 17-00016

			Old Permit	New Permit
$/ton factor	23.93	Permit Predominant Air Contaminant	50	50
Minimum Fee $	400	Net Predominant Air Contaminant Increase	0	
Minimum Initial Fee $	500			
		Permit Fee $	400	
Check if Administrative Amendment	☐	Annual Chargeable Emissions (tpy)	50	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	14.6	14.6	0
PM_{10}	14.6	14.6	0
$PM_{2.5}$	0	0	0
SO_2	0	0	0
VOC	50	50	0
CO	0	0	0
NO_X	4.8	4.8	0
Total HAP	24.5	24.5	0
Single HAP	9.5	9.5	0
Acetone	1	1	0
Manganese	0.31	0.31	0
Nickel	0.17	0.17	0