

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1779-AOP-R8 AFIN: 28-00251

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

American Railcar Industries, Inc. - Paragould
901 Jones Road
Paragould, Arkansas 72450

3. PERMIT WRITER:

Jesse Smith

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Railroad Rolling Stock Manufacturing
NAICS Code: 336510

5. 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
2/24/2016	Renewal	Trace HAPs in dust collectors and natural gas combustion sources added
3/31/2016	Minor Mod	Addition of aluminum melt furnace to SN-09 Reclassification of welding sources to insignificant activities

6. REVIEWER'S NOTES:

American Railcar Industries, Inc. (ARI) owns and operates a railcar welding and fabrication plant in Paragould, AR. In this renewal, a CAM Plan has been submitted for the dust collectors, all natural gas sources have been grouped under SN-09 (previously SN-09 and SN-17), and trace HAPs have been identified and permitted for the dust collectors and natural gas sources. A minor mod is also included in this permitting

action. In this minor mod, the welding operations (previously SN-10 and SN-11) were reclassified as insignificant activities and a new aluminum melt furnace area was added to the SN-09 natural gas combustion sources.

As a result of this revision, PM/PM₁₀ emissions decreased by 0.1 tpy, SO₂ emissions decreased by 0.5 tpy, VOC emissions increased by 0.6 tpy, CO emissions increased by 12 tpy, NO_x emissions increased by 16.2 tpy, and Total HAP emissions increased by 1.1 tpy.

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 July 14, 2015. There were no areas of concern noted during this inspection.

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? Y

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

The facility is not increasing emissions at a level that would trigger PSD review.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
06, 07, 08, 14, 15, 16	HAPs	40 CFR Part 63, Subpart Mmmm
01, 02, 03, 04, 05, 12, 13, 18	PM ₁₀	40 C.F.R. Part 64 Compliance Assurance Monitoring

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

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?
Ethylbenzene	87	9.55	6.56	Y
MIBK	82	9.01	6.82	Y
Xylene	434	47.76	27.79	Y
Other HAPs from Painting Operations	19.5*	2.145	144.0**	N

*TLV chosen as lowest that passes PAIL

**Double the highest single HAP lb/hr

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. This information is taken from modeling performed for the R6 version of this permit.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Other HAPs from Painting Operations	195*	190.46	Y

*PAIL value chosen to determine lowest TLV that would pass in these conditions

c) H₂S 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 H₂S Standards N
 If exempt, explain: _____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	20 parts per million (5-minute average*)	0	Y
	80 parts per billion (8-hour average) residential area	0	Y
	100 parts per billion (8-hour average) nonresidential area	0	Y

*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 1-hour average concentration

t_m = 60 minutes

t_p = 5 minutes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
SN-06, SN-07, and SN-08	Manufacturer Information	Est. Max Spray Rates: Exterior Primer – 31.0 gal/hr Exterior Topcoat – 35.0 gal/hr Interior Primer – 23.0 gal/hr Interior Topcoat – 24.0 gal/hr Max Voc Content – 3.5 lb/gal Max HAP			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		Content – 3.06 lb/gal			
SN-14, SN-15, and SN-16	Manufacturer Information	Est. Max Spray Rates: Exterior Primer – 30.0 gal/hr Exterior Topcoat – 18.0 gal/hr Interior Primer – 23.0 gal/hr Interior Topcoat – 26.0 gal/hr Max Voc Content – 3.5 lb/gal Max HAP Content – 3.06 lb/gal			
SN-01, SN-02, SN-03, SN-04, SN-05, SN-12, SN-13, SN-18	Grain Loading	0.002 gr/dscf	Baghouses	99.5	
SN-09	AP-42 Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4	7.6 lb/MMscf PM/PM ₁₀ 5.5 lb/MMscf VOC 84 lb/MMscf CO 100 lb/MMscf NO _x			Plantwide Heat Input Capacity set at 100 MMBtu/hr

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

14. 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				

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)
06, 07, 08, 14, 15, 16	VOC and HAP usage	TPY limits of permit HAP: name, amount, and HAP content of each HAP containing material and 12 month rolling total of HAPs emitted.	Monthly	Y
06, 07, 08, 14, 15, 16	HAP Records	See Specific Condition 17 and 18	Monthly	Y
09	List of all equipment and associated fire rates in SN-09	100 MMBtu/hr	On equipment change	Y
09	Records of type of aluminum melted in SN-09	Clean charge aluminum only	Monthly	Y

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02, 03, 04, 05, 12, 13, and 18	5%	Department Guidance	Daily Observation
09	5%	Department Guidance	Natural Gas Only

17. DELETED CONDITIONS:

Former SC	Justification for removal
16, 26	Conditions for initial compliance status with MMMM. No longer necessary.
27, 28, 29	SN-10 and SN-11 have been reclassified as insignificant activities, and so source conditions for the welding activities are no longer needed.

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Gasoline Tanks	A-13			0.2				
Diesel Tanks	A-3			0.1				
Welding Operations	A-13	1.13					6.60 E-02	6.61 E-02

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1779-AOP-R7

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

American Railcar Industries, Inc. - Paragould
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\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	555.4
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)	16.2
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 condensable 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		17.4	17.3	-0.1		
PM ₁₀		17.4	17.3	-0.1	-0.1	17.3
PM _{2.5}		0	0	0		
SO ₂		0.8	0.3	-0.5	-0.5	0.3
VOC		491.9	492.5	0.6	0.6	492.5
CO		24.8	36.8	12		
NO _x		29.1	45.3	16.2	16.2	45.3
Total HAPs	<input type="checkbox"/>	490	491.1	1.1		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Manganese	<input type="checkbox"/>	0.05	0	-0.05		