STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1830-AOP-R13 AFIN: 28-00256

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Greenbrier Central, LLC
7755 Highway 34 East
Marmaduke, Arkansas 72443

3. PERMIT WRITER:

Elliott Marshall

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Railroad Rolling Stock Manufacturing
NAICS Code: 336510

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
1/2/2020	Minor Mod	Install two new Plasma metal cutting tables and associated dust collectors (SN-34 and SN-35)

6. REVIEWER'S NOTES:

This application was submitted as a minor modification to install two new plasma metal cutting tables, with associated dust collectors (SN-34 and SN-35), at the West Plant Building. Permitted emission rates are increasing by 3.8 tpy PM/PM_{10}, 2.2 tpy NO_x, and 0.1 tpy Total HAPs.

7. COMPLIANCE STATUS:

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

There are no active or pending 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

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(s)	Pollutant	Regulation (NSPS, NESHAP or PSD)
05, 06, 09, 10, 12, 20, 21, 23, 28, 29, & 32	HAPs	NESHAP MMMM
25	PM, CO, NOx, PMHAPs	NESHAP DDDDD
01, 07, 08, 18, 19, 30, 31, 33, 34 & 35	PM_{10}	CAM
24	VOC	CAM

10. 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 Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N/A
If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
N/A		

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?
arsenic	0.01	0.0011	0.00005	Yes
beryllium	0.00005	0.0000055	0.000003	Yes
cadmium	0.01	0.0011	0.00027	Yes
chromium	0.5	0.055	0.018	Yes
cobalt	0.02	0.0022	0.000003	Yes
chromium	0.5	0.055	0.018	Yes
ethylbenzene	87	9.57	140.0	No
manganese	0.1	0.011	0.197	No
mercury	0.01	0.0011	0.00007	Yes

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
2-propoxyethanol	86	9.46	140.0	No
POM	0.01	0.0011	0.00003	Yes
selenium	0.2	0.022	0.000006	Yes
xylene	434	47.74	46.74	Yes

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.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of TLV	Modeled Hourly Rate (lb/hr)	Modeled Concentration ($\mu g/m^3$)	Pass?
2-propoxyethanol	860	140.0	530.33*	Y
ethylbenzene	870	140.0	530.33*	Y
manganese	1.0	0.197	0.895	Y
NCAP/HAP Limit 10 tpy	42.54	10.0	42.54	■

*Used the same model at the highest hourly rate based on operations of 2000 hrs/yr.

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01, 07, 08, & 18	Grain loading factor and air flow MSDS	0.01 gr/ft^3 0.25% Cr 1.3% Mn 0.2% Ni	Dust collector	99%	SN-01: 11,000 acfm SN-07: 30,000 acfm SN-08: 30,000 acfm SN-18: 12,000 acfm
02A, 02B, & 26	Fume Emissions Testing for Plasma Arc Cutting	WET Plasma 0.00056 $lb_{PM/PM10}$/in 2.0% (of PM) Mn 0.2% (of PM) Ni 8.6E-5 lb_{NOx}/in	N/A	N/A	SN-02A: 116 in/min SN-02B: 115 in/min SN-26: 85 in/min
05, 06, 09, 10, 12, 20,	Material Balance Based on actual	VOC set at max of 235 tpy then	N/A	N/A	Annual bubble of 235 tpy VOC

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
21, 23, 28, 29, & 32	usage records	permitted hourly based on Avg. Max divided by operating 40 hours per week for 50 weeks a year. For HAPs: Scaled actual HAP usage up by 235tpy(permitted)/ 12tpy (15/16 actuals)			
11	AP-42	250 MMBtu/hr 500 MMscf/yr 100 lb_{NOx}/MMscf 84 lb_{CO}/MMscf 5.5 lb_{VOC}/MMscf 7.6 $lb_{PM/PM10}$/MMscf 0.6 lb_{SO2}/MMscf	N/A	N/A	
19	MSDS NO_x Factor: Hypertherm – *Fume emissions testing for plasma arc cutting* (1999)	<u>PM/PM_{10} Emissions</u> (PM/PM_{10} are routed back inside building) 0.01gr/scf 7,700 scf/min <u>NO_X Emissions</u> 2.24E-04 lb NO_x per inch of metal cut (1/2" Mild Steel) . . .corrected to 13/16" mild steel = 3.64E-04 lb/inch	None	None	None
24	AP-42 13.5	69.3 MMBtu/hr 35,000 MMBtu/yr 0.068 lb_{NOx}/MMBtu 0.31 lb_{CO}/MMBtu 0.57 lb_{VOC}/MMBtu	Flare	98% for VOC	
30 & 31	AP-42 Grain loading factor and air flow	5,500 hours/yr 20,000 scf/min 0.010 gr/scf	None	N/A	
33	AP-42 Grain loading factor and air flow	8,760 hours/yr 20,000 scf/min 0.010 gr/scf	None	N/A	
34 & 35	Grain loading factor and air flow Fume Emissions Testing for Plasma	0.01 gr/scf 2.0% (of PM) Mn 0.2% (of PM) Ni 8.6.E-05 lb_{NOx}/in	Dust Collector	99%	5,000 scfm 45 in/min

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	Arc Cutting				

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)
24	Pilot Flame	Alarm when not lit/flare won't operate	NA	N

16. 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)
30 & 31	Hours of Operation	5,500/12-mth, each	Monthly	Y
01, 07, 08, 18, 19, 30, 31, 33, 34 & 35	Opacity Observations	5%	Daily	N
	Filter Maintenance	Filter is functioning as designed and in use		
05, 06, 09, 10, 12, 20, 21, 23, 28, 29, & 32	VOC Emissions, VOC containing material, VOC content, & VOC usage	235 tpy	Monthly	Y
	HAP Emissions, HAP containing material, HAP content, HAP usage, & TLV of each HAP	235 tpy, Min TLV of 4.5 mg/m^3 if emitting 10tpy or more	Monthly	Y
	NESHAP MMMM notification	See Specific Condition 20	Initial	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Manufacturer formulation data OR test data to determine mass frac. of HAP and density for each material used	See Specific Condition 20	When changed or updated	Y
	NESHAP MMMM Compliance Option used and period of time used	See Specific Condition 20	Monthly	Y
	NESHAP MMMM Calculation of organic HAP content for each coating	Under complaint material option	Monthly	Y
	NESHAP MMMM Calculation of total mass of organic HAP emissions	Under emission rate without add-on control	Monthly	Y
	NESHAP MMMM Name of Coating Vol of Coating Used Mass Frac of HAP Vol Frac of solids Density of each material Records of Waste	Specific Conditions 17-29	Monthly	Y
11	Natural Gas Usage	500 MMSCF/yr	Monthly	Y
	Total Heat Capacity	250 MMBtu/hr	As equipment is added	N
	Updated list of all equipment	---	As equipment is added	N
25	Biennial Tune-up findings: Inspect burner, Clean/replace components, Inspect flame pattern, Inspect A/F ratio, Optimize CO emissions, Measure CO conc., Corrective Actions from tune-up, Fuel type and usage.	Do tune-up every 2 years, don't exceed 25 months between tune-ups. See Specific Conditions 42-58.	25 months	Y
24	NOx Emissions from vapor extraction	1.2 tpy	Monthly	Y
	CO Emissions from	5.5 tpy		

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	vapor extraction			
	VOC Emissions from vapor extraction	9.0 tpy		
	HAP Emissions from vapor extraction	9.0 tpy		
	Flare Operation	NA	When operated	N
	Presence of Pilot Flame	Must be lit		

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 07, 08, 18, 19, 30, 31, 33, 34 & 35	5%	CAM	Daily Observations
11	5%	Dept. Guidance	Natural Gas Usage
24	0%	18.501	Daily, when in operation

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	HAPs	
							Single	Total
1,000 Gallon Diesel Storage Tank (SN-14)	A-3			0.0003				
1,000 Gallon Diesel Storage Tank	A-3			0.0003				
Welding Operations	A-7	1.0						0.038
Wastewater Treatment	A-13			0.06				
250 Gallon Gasoline Storage Tank	A-13			0.16			0.16	0.16
Foam Insulation Blowing	A-13			0.01			0.01	0.01

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 #
1830-AOP-R12

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Greenbrier Central, LLC
Permit Number: 1830-AOP-R13
AFIN: 28-00256

$/ton factor	23.93	Annual Chargeable Emissions (tpy)	369.5
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	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	6
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		75.6	79.4	3.8		
PM_{10}		75.6	79.4	3.8	3.8	79.4
$PM_{2.5}$		0	0	0		
SO_2		0.3	0.3	0	0	0.3
VOC		245.8	245.8	0	0	245.8
CO		32.5	32.5	0		
NO_X		41.8	44	2.2	2.2	44
Total HAPs	☐	245.79	245.89	0.1		