STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0288-AR-15 AFIN: 66-00212

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

GNB Industrial Battery Company
4115 South Zero
Fort Smith, Arkansas 72903

3. PERMIT WRITER:

Christopher Riley

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Storage Battery Manufacturing
NAICS Code: 335911

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
3/9/2017	Modification	New emission factors and addition of source SN-58, including a baghouse

6. REVIEWER'S NOTES:

Exide Technologies, formerly GNB Technologies Inc., owns and operates a lead-acid battery manufacturing facility in Fort Smith, Arkansas. This modification is to add SN-58 (a new 60,000 cfm baghouse for Mixing, Pasting, and Oxide Unloading) as well as update the emission rates/factors for both PM and PM_{10} across the plant.
Permitted emissions increases are: 36.54 tpy of both PM and PM_{10}, and 0.67 tpy of lead.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.
Facility has CAO 17-033. This application modifies the PM_{10} at issue in the CAO.

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*

If yes, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
01-04, 37, 51, 53, 56, 57, 58	Lead	*NSPS Subpart KK*

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a)

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
Pb	0.96	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	.1115	74.333%

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?
H_2SO_4	1	0.11	0.3	No

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 Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
H_2SO_4	10*	2.0	Yes

*This model was done in ISC. No additional modeling has been done in permit #028-AR-15 since there was no change in emissions.

c) H_2S 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 H_2S Standards N/A
If exempt, explain:_____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H_2S	20 parts per million (5-minute average*)		
	80 parts per billion (8-hour average) residential area		
	100 parts per billion (8-hour average) nonresidential area		

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

$Cp = Cm\ (t_m/t_p)^{0.2}$ where

Cp = 5-minute average concentration
Cm = 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
All lead pots	AP-42	PM/PM_{10} 7.6 lb/MMcf SO_2 0.6 lb/MMcf VOC 5.5 lb/MMcf CO 84 lb/MMcf NO_x 94 lb/MMcf	None	N/A	the lead pots were changed to insignificant sources
04- curing ovens	AP-42	PM/PM_{10} 7.6 lb/MMcf SO_2 0.6 lb/MMcf VOC 5.5 lb/MMcf CO 84	Baghouse	99%	15 curing ovens @ .015 mmBTU/hr each

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		lb/MMcf NO_x 94 lb/MMcf			
04- grid casters & ladle burners	AP-42	PM/PM_{10} 7.6 lb/MMcf SO_2 0.6 lb/MMcf VOC 5.5 lb/MMcf CO 84 lb/MMcf NO_x 94 lb/MMcf	Baghouse	99%	Total Burner Rating = 0.1 mmBTU/hr (4 grid casters @ 0.025 mmBTU/hr each)
56- 7 grid casters & ladle burners	AP-42	PM/PM_{10} 7.6 lb/MMcf SO_2 0.6 lb/MMcf VOC 5.5 lb/MMcf CO 84 lb/MMcf NO_x 94 lb/MMcf	Baghouse	99%	7 grid casters @ 0.025 mmBTU/hr each
56- 5 lead pots & emission ducts	AP-42	PM/PM_{10} 7.6 lb/MMcf SO_2 0.6 lb/MMcf VOC 5.5 lb/MMcf CO 84 lb/MMcf NO_x 100 lb/MMcf	Baghouse	99%	5 casting pots @ 0.8 mmBTU/hr each
58	Facility Limit NSPS	0.0075 gr/dscfm PM/PM_{10} 0.00032	Baghouse	99%	60,000 actual cfm

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

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01, 02, 03, 04, 37, 51, 53, 56, 57, 58	Lead, PM/PM_{10}	5	5 years	To demonstrate compliance with the permitted emission limits.

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)
N/A				

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)
01-04, 37, 51, 53, 56, 57, 58	Maintenance records	N/A	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01-04, 37, 51, 53	0%	Opacity limit from last permit.	Baghouse-Annual Compliance Test Reference Method 12 for lead Reference Method 5 for PM/PM_{10}
11, 55	5%	Department guidance. Natural gas fired.	EPA Reference Method 9
47, 48, 54	0%	Opacity limit from last permit.	EPA Reference Method 9
56, 57, 58	0%	NSPS Subpart KK	Baghouse-Annual Compliance Test Reference Method 12 for lead Reference Method 5 for PM/PM_{10}

17. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
19 Lead Pots (NG fired at 0.8 MM BTU/hr each)	1							
Sink Station	13							
Heat Sealer	13							
Helium Leak Tester	13							
2 Linburg ovens (0.5 MM Btu/hr each)	1							
Milling machine, drill press, grinder, sander at electrical test lab	5							
23 Battery Chargers Area	5							
Finishing and Pack Operation	13							
Shop Size Glass Bead Blaster	13							
Milling and Sawing of Post at Casting Operation	13							

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0288-AR-14

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: GNB Industrial Battery
Permit Number: 0288-AR-15
AFIN: 66-00212

			Old Permit	New Permit
$/ton factor	23.93	Permit Predominant Air Contaminant	47.8	84.34
Minimum Fee $	400	Net Predominant Air Contaminant Increase	36.54	
Minimum Initial Fee $	500			
		Permit Fee $	874.4022	
Check if Administrative Amendment	☐	Annual Chargeable Emissions (tpy)	84.34	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	47.8	84.34	36.54
PM_{10}	47.8	84.34	36.54
$PM_{2.5}$	0	0	0
SO_2	0.6	0.6	0
VOC	18.2	18.2	0
CO	8	8	0
NO_X	10.2	10.2	0
Lead	3.24	3.91	0.67
H2SO4	0.8	0.8	0