STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1272-AOP-R1 AFIN: 43-00024

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Ammunition Operations, LLC (Lonoke)
2592 Arkansas Highway 15 North
Lonoke, Arkansas 72086

3. PERMIT WRITER:

Sarah Neoh

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Ammunition (except Small Arms) Manufacturing
NAICS Code: 332993

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
7/9/2024	Minor Mod	To install a Bleimeister shot former routed to SN-31 (Cartridge Melting Pots, Remelt System, Rotary Furnace, Bleimeister Baghouse)
11/1/2024	Significant Mod	Install a new Rotary Kiln with Advanced Process Control (APC) (SN-31B) at the Burn Plant

6. REVIEWER'S NOTES:

Ammunition Operations, LLC manufactures centerfire and rimfire cartridges, shotshells and primers. This permitting action is necessary to:

- Add the Bleimeister shot former to SN-31, which will consist of a natural gas melting pot and water formed shot system.
- Rename the equipment currently at SN-31 to SN-31A, which will consist of the new Bleimeister shot former, Cartridge Melting Pots, Remelt System, and Rotary Furnace (SN-02A,B, and 30), all routed to a baghouse.
- Install a new Rotary Kiln with Advanced Process Control (APC) (SN-31B) at the Burn Plant. The new furnace will be controlled. The APC equipment for SN-31B will consist of the Kiln, Afterburner, a SNCR NOx unit, cyclone, and baghouse with HEPA filter.
- Add an ammonia tote to the Significant activities list.
- The Rotary Furnace and Cartridge Melting Pots (SN-30 and SN-02A and B) will be removed from service once SN-31B is operational, but the facility will need some short time of potentially concurrent operation. This will leave the shot former and Remelt System at SN-31A and emissions are controlled by a baghouse.
- Add Plantwide Condition 14 to state that only one kiln at a time may treat hazardous waste while SN-31B is becoming fully operational.
- To fix miscalculations and errors in emissions including moving Maintenance Paint Booth Exhaust (SN-21) to the Insignificant Activities list, and
- Correct emissions at SN-43, Centerfire 7 Cone Gas Dryer, which was permitted incorrectly at a larger rating.

The modification increases/decreases annual permitted emissions by 1.2 tpy PM/PM_{10}, 2.0 tpy SO_2, -47.9 tpy VOC, 9.1 tpy CO, 42.4 tpy NOx, and -4.44 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.

ECHO identified a high-priority violation as of QTR 8 (September 26, 2023) that was addressed in QTR 12+ (July-September 2024). On July 19, 2023, the facility was subject to FCE On-Site compliance monitoring. A notice of violation was issued on September 26, 2023 and on January 8, 2024. The latest enforcement action occurred on July 15, 2024 with a penalty assessment of $8,360. The violation is marked as unresolved according to ECHO as of January 24, 2025. The facility was last inspected on November 1, 2024. The facility reported deviations.

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)
SN-48, SN-49, SN-50, SN-51, SN-52, SN-54, SN-55, SN-56, and SN-57	HAP	40 CFR 63, Subpart ZZZZ - *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
SN-58	Nickel	40 CFR 63, Subpart WWWWWW - *National Emissions Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*
SN-31A-02A, SN-02B, SN-30, SN-31 (Current Operating Scenario)	HAP	40 CFR 63, Subpart EEE - *National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors*
SN-31B – New Kiln Scenario	HAP	40 CFR 63, Subpart EEE - *National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors*
SN-64A/B	HAP	40 CFR 63, Subpart CCCCCC – *National Emission Standard for Hazardous Air Pollutants for Gasoline-Dispensing Facilities*

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
None.				

11. 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 Rule 18 requirement.)

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

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
SN-31A-SN-02A, SN-02B, and SN-30 (Current Operating Scenario)	Single HAP, Combined HAP, PM_{10}	This is a Post 11/15/1990 NSPS or NESHAP emission limitation or standard that applies to this source and pollutant – 40 C.F.R. § 64.2(b)(1)(i)
SN-31B (Post-New Kiln Scenario)	Single HAP, Combined HAP, PM_{10}	This is a Post 11/15/1990 NSPS or NESHAP emission limitation or standard that applies to this source and pollutant – 40 C.F.R. § 64.2(b)(1)(i)
SN-60A, SN-61A/B/C. SN-63 A/B/C	Single HAP, Combined HAP, PM_{10}	The pre-control emissions do not exceed a major source threshold (100 tpy PM10, 100 tpy PM2.5, 100 tpy SO2, 100 tpy VOC, 100 tpy CO, 100 tpy NOx, 100 tpy Lead, 10 tpy Single HAP, or 25 tpy Combined HAP)
SN-34	NO_x	The pre-control emissions do not exceed a major source threshold (100 tpy PM10, 100 tpy PM2.5, 100 tpy SO2, 100 tpy VOC, 100 tpy CO, 100 tpy NOx, 100 tpy Lead, 10 tpy Single HAP, or 25 tpy Combined HAP)

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. 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 DEQ Air Permit Screening Modeling Instructions.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Division of Environmental Quality 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 Division of Environmental Quality 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).

Modeling was performed for all existing sources and 31A/B, post new kiln installation. New kiln and old kiln emissions were not modeled simultaneously because 1) the old kiln will be decommissioned and 2) waste is only burned at one kiln at a time, and 3) the old kiln was previously modeled at the facility in R0.

Contributions from Emergency generators are not included in PAER or PAIL. SN-31B has a combined HCl/Cl limit under EEE.

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Ammonia	17.0	1.87	0.09	Y
Arsenic	0.01	1.100E-03	1.265E-03	N
Antimony	0.5	5.500E-02	5.504E-03	Y
Benzene	0.064	7.028E-03	6.127E-01	N
Beryllium	0.00005	5.500E-06	2.409E-04	N
Cadmium	0.002	2.200E-04	2.158E-04	Y

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Chlorine	0.29	0.0319	0.42	N
Chromium	0.5	0.055	3.481E-04	Y
Cobalt	0.02	2.2E-03	3.085E-04	Y
Cyanide	5.0	5.716E-01	3.900E-05	Y
Dichlorobenzene	60.13	6.61	8.744E-05	Y
Ethyl Benzene	86.84	9.55	3.750E-01	Y
Formaldehyde	1.5	0.165	5.779E-03	Y
Hexane	352.5	38.78	1.389E-01	Y
HCl	2.98	0.3278	0.42	N
Manganese	0.02	2.2E-03	3.313E-04	Y
MTBE	180.3	19.83	1.880E+00	Y
Mercury	0.025	2.75E-03	1.260E-04	Y
Naphthalene	52.43	5.77	2.500E-01	Y
Nickel	1.5	0.165	5.600E-04	Y
PAH/POM	0.02	0.0022	3.005E-02	N
Selenium	0.2	0.022	1.329E-04	Y
Toluene	75.37	8.29	2.624E-04	Y
Lead	0.05	0.0055	0.125	N
Vinyl Chloride	2.56	0.2812	0.34	N
Nitrobenzene	5.0	0.55	0.67	N

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 Division of Environmental Quality 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?
Arsenic	0.1	0.0029	Y
Beryllium	5.00E-04	5.3E-04*	N
Benzene	0.64	0.26**	Y
Chlorine	2.9	1.08	Y
Chromium	2.00E-03	6.20E-04	Y
HCl/Cl^-	30.0	1.08	Y
PAH	2.0	0.00054	Y
Lead	0.5	0.221	Y
4-Nitrophenol	***ESL -10 ug short term, 1 ug long term	6.16 H1H 1-hr 0.14 annual average	Y
Vinyl Chloride	25.6	0.88	Y
Nitrobenzene	50	1.72	Y
Dioxin/Furan****	N/A	3.72E-9	

* Beryllium emissions occur in industrial/commercial areas. The impact area poses no risk for significant human exposure since there are no residential areas within the affected zone.
**Benzene from the gasoline tanks were modeled as if the working emissions occurred in a single hour, once per week. Breathing losses are much less significant.
***No AICGH TLV exists; used Texas ESL levels.
****Modeled conc based on proportional value @ 1 lb/hr since emission rates this low can't be modeled directly.

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.

No H2S emitted.

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3 Lead—stack testing	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3 Lead-5.7E-04lb/hr Antimony=1% of Pb			2.1 MM BTU/hr Pb stack test=0.000741 lb/hr
05	Historical Stack Testing of similar source, SN-11 for lead	PM, Lead-3.0E-02 lb/hr Antimony-0.0003 lb/hr	Rotoclone		Rotoclone controls emissions from 3 tumblers
06	October 2012 Stack Test for Lead	Lead-0.00055 lb/hr Antimony-0.000006lb/hr (1% of lead)			Common exhaust for bullet groover & shaker
07	Maximum VOC emission rate taken to be 5X the average.	VOC = 8.0 lb/hr (5X average)			7.0 tons/yr total of lacquer thinner, heptane, lacquer, and Black Asphaltum
10	Emissions based on mass balance	VOC = 3.2 lb/hr			17,100 lb/year limit
17, 18, 19, 35	Stack testing for lead, all based on SN-17	PM and Pb, 4.4 E -03 lb/hr Antimony Emissions = 5.2% of lead emissions Arsenic Emissions = 1.2% of lead emissions			
20	Stack tested 2012	PM Pb, = 3.0 E -02 lb/hr 1.2% arsenic & 5.2% antimony			
23, 25, 36	SN-25 has been stack tested for lead and is assumed similar to SN-23 and SN-36.	PM and Lead = 5.8 E -03 lb/hr Antimony Emissions = 5.2% of lead emissions Arsenic Emissions = 1.2% of lead emissions	Rotoclone		
22, 24	SN-22 Emissions have been stack tested for Lead, 24 assumed similar	PM and Lead = 3.3 E -04 lb/hr Antimony Emissions = 5.2% of lead emissions Arsenic Emissions = 1.2% of lead emissions			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
26	Stack testing for lead	PM and Lead Emissions = 2.2 E -03 lb/hr Antimony Emissions = 5.2% of lead emissions Arsenic Emissions = 1.2% of lead emissions	Rotoclone		
27, 28, 29	Stack testing for lead	PM and Lead =1.3 E -03 Antimony Emissions = 5.2% of lead emissions Arsenic Emissions = 1.2% of lead emissions	Rotoclone (3 total)		Lead is 1.2% Arsenic and 5.2% Antimony
30	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion Stack tested for Lead	Lb/hr PM/PM_{10}-0.031 SO_2-0.0024 NO_x-0.40 CO-0.34 VOC-0.024 Lead-0.034 Antimony-0.019 PM/PM_{10}-0.05	Multiclone	90%	4.0 MM Btu/hr burner Natural gas 4,000 SCF/hr Lead contains 55% Antimony

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
31-02A/B, 30	40 CFR 63, Subpart EEE emission limits, Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion Stack tested for Lead, Antimony, Arsenic—prior to installation of baghouse (Alternative Operating Scenario)	Lb/hr PM/PM_{10}-0.035 SO_2-0.0027 NO_x-0.45 CO-0.378 VOC-0.027 Lb/hr—before baghouse Lead-0.235 Antimony-0.020 Arsenic-0.020 Lb/hr after baghouse efficiency Lead-0.020 Antimony-0.0011 Arsenic-0.0024	Baghouse	99%	2 natural gas remelt combustion burners – 2 x 0.75 MMBtu/hr 2 natural gas melting pots – 2 x 1.5 MMBtu/hr common stack Bleimeister shot former – 0.37 MMBtu/hr natural gas burner
31A	AP-42 Emission factors for small boilers (<100 MMBtu/hr). HAP is total of all HAP constituent emission factors. PM assumed equal to PM_{10}	Lb/MMscf PM/PM_{10} = 7.6 SO_2 = 0.6 VOC = 5.5 CO = 84.0 NO_x = 100.0 HAP = 1.89 Lead = 5.0E-04	Baghouse	99.9+%	Remelt System (2 at 0.75 MMBtu/hr) and Bleimeister Shot Former (0.4 MMBtu/hr) 3,300 lbs of lead to Bleimeister 4,500 lbs of lead and bullet scrap processed at source
31B	40 CFR 63, Subpart EEE emission limits and maximum outputs based on powder burn hours	Varies	Baghouse (PM/PM_{10}, Lead) Afterburner (VOC, CO) Selective Non-Catylitic Reduction - SNCR (NO_x)	99.9% 99.9% 50%	NO_x emissions include the 50% reduction from SNCR (10.2 lb/hr 44.68 tpy) 1,100 lbs cartridges, primed shells, powder processed at source Maximum of 7,500 powder burn hours per rolling 12-month period

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
34	October 2012 Stack Test for NO_X	32.1 lb/hr (117 lb/batch)	Wet counter flow scrubber	95% Based on EPA fact sheet "Air Pollution Control Tech. Fact Sheet, "EPA-452/F-03-015	175 ft^3 packing; annual NO_X limit based on 730 batches per year.
38	Emissions calculated on mass balance	VOC-9.0 lb/hr			13,000 lb/yr annual limit
40	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			1.5MM Btu/hr NG fired
41	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			Eight annealing furnaces NG fired @ 0.665 MM Btu/hr each; total=5.32 MM Btu/hr
42	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			Ten mouth anneals NG fired @ 0.532 MM Btu/hr each; total = 5.32 MM Btu/hr
43	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			NG fired; 1.5 MM Btu/hr
44	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			Two NG Fired dryers @ 1.5 MM Btu/hr each; total = 3.0 MM Btu/hr
45	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			Boiler-NG fired 750 boiler HP, 25.11 MM Btu/hr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
46	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4.1, 1.4.2, and 1.4.3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			Boiler-NG fired 750 boiler HP, 25.11 MM Btu/hr
47	VOC emissions determined by mass balance	VOC-1.2 Lb/hr		Limit is 5.0 tpy MEK; Primary emission is MEK (VOC) Formerly two sources (47 & 48) designated the printing; now, only one source, SN-47) designates this activity	
48,49	Table 3.3-1 (Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines) from a guidance document on EPA's AP-42	Lb/MMBTU PM/PM_{10}- 0.31 SO_x-0.29 CO-0.95 NO_x-4.41 VOC-0.36			Diesel HHV = 19,300 btu/lb Diesel Density = 7.05 lb/gal BSFC = 7,000 Btu/hp-hr (19.55 gph) Hours = 500 hr/yr
50	Table 3.4-1 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) and Table 3.4-2 (Particulate and Particle-sizing Emission Factors for Large Uncontrolled Stationary Diesel Engines) from a guidance document on EPA's AP-42	Lb/MMBTU PM/PM_{10}-0.1 SO_x-0.05 CO-0.85 NO_x-3.2 VOC-0.09			Sulfuer content in fuel is assumed to be 500 ppm (0.05%) 830 HP diesel engine Diesel HHV = 19,300 btu/lb Diesel Density = 7.05 lb/gal BSFC = 7,000 Btu/hp-hr (19.55 gph) Hours = 500 hr/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
51, 52, 53,55, 56	AP-42 Table 3.2-1	Lb/MM Btu PM-9.99E-03 PM10-7.71E-05 SO_2-5.88E-04 CO-5.57E-01 NO_x-4.08 VOC-1.18E-01			Emissions based on 100 hrs/yr operation Natural Gas HHV = 1,000 btu/scf SN-51=201 scf SN-52=101 scf SN-53=503 scf SN-55=101 scf SN-56=503 scf
54	AP-42 Table 3.3-1	Lb/MMBTU PM/PM10-0.1 SO_2-0.084 CO-0.99 NO_x-1.63 VOC-3.03			Emissions based on 100 hrs/yr operation Gasoline HHV = 20,300 btu/lb Gasoline Density = 6.17 lb/gal BSFC = 7,000 Btu/hp-hr (0.45 gph)
57	Table 3.4-1 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) from a guidance document on EPA's AP-42.	Lb/MMBTU PM/PM_{10}-0.031 SO_x-0.29 CO-0.95 NO_x-4.41 VOC-0.36			160 HP diesel Emissions based on 500 hrs/yr Diesel HHV = 19,300 btu/lb Diesel Density = 7.05 lb/gal BSFC = 7,000 Btu/hp-hr (8.23 gph
58	Fifth Edition of AP-42, Section 12.20, Electroplating, Tables 12.20-4, Emission Factors for Electroplating—Other Metals Hourly nickel emission rate is based on the maximum amperage of the nickel tank rectifier of 1000 amps	6.7 grains/10^6 dscf [AP-42] * 100 (grains/A-hr)/(grains/dscf)			1,665 dscf/min
59	Fifth Edition of AP-42, Section 12.20, Electroplating, Tables 12.20-4, Emission Factors for Electroplating—Other Metals Hourly cyanide emission rate is based on the maximum amperage of the copper tank rectifier of 1000 amps	2.7 grains/10^6 dscf [AP-42] * 100 (grains/A-hr)/(grains/dscf)*			1,665 dscf/min

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
XX	VOC based on mass balance	VOC = 11.0 lb/hr			
11, 12, 60A	Lead-stack testing of all sources under 60A baghouse in 2015	PM and Pb, 3.9 E -03 lb/hr Antimony, 1% of Pb	Baghouse	99%	
60B	AP-42, Section 1.4, Natural Gas Combustion, Tables 1.4-1, 1.4-2, and 1.4-3	PM/PM_{10}-7.6 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NOx-100.0 lb/10^6 ft^3 CO-84.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			2 burners @ 2.1 MM BTU/hr each
61 A/B/C	Stack Test (SN-11)	PM/PM10/Lead 0.0017 gr/acf Antimony = 1% of Pb	Dust collector filter	99%	Baghouse filter flow = 354 cfh
62 A/B/C	VOC emissions determined by mass balance	6.71 lbs MEK/Gallon			MEK = 120 gal/mo MEK/VOC limit = 5.0 tpy
63 A/B/C	Stack Test (SN-11)	PM/PM10/Lead 0.0017 gr/acf Antimony = 1% of Pb	Dust collector filter	99%	Baghouse filter flow = 354 cfh
64 A/B	Gasoline (Chevron Regular Unleaded Gasoline MSDS)	Benzene 4.9wt% Ethylbenzene 3wt% Naphthalene 2wt% Methyl tert-butyl ether (MTBE) 15%			Tank Capacity = 1,000 gal Annual throughput = 25,000 gal Working Loss = 311.02 lb/yr Breathing Loss = 605.23 lb/yr

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
31A&B	HAPs	Comprehensive Performance Testing, Confirmatory Performance Test,	Initial Test no later than 6 months after compliance date and every 5 years	Subpart EEE requirements

SN	Pollutants	Test Method	Test Interval	Justification
		Destruction and Removal Efficiency, Hazardous Waste Residence Time Calculations		
31B	Ammonia	CTM-027 or other approved method	Initial and every 5 years	SNCR Nox reduction, ammonia feed rate

17. 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)
31B	• PM/PM_{10}, • CO, • O_2, • Opacity, • Hydrocarbons, • Max Waste Feed Rate, • Mercury Feed Rate, • Max Baghouse Inlet Temperature, • Max Feed Rate of SVM and VM, • Max Chlorine and Chloride Feed Rate, • Max Flue Gas or Production Rate, • Carbon Bed Parameter Limits, • Catalytic Oxidizer Parameter Limits, o Minimum and Max Flue Gas Temperature o Max time in-use • Dioxin/Furan Inhibitor Feed Rate Parameter Limits, • Cadmium, Lead, Arsenic, Beryllium, and Chromium Parameter Limits, o Max Feed Rate	CEMS, COMs, Comprehensive Performance Testing	Hourly	N

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
	o Max Inlet Temperature • Max Combustion Chamber Pressure			
31B Afterburner	NOX 50 ppmdv	CEM	Continuous	N

18. 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 For current operating scenario	Tons of primed centerfire and rimfire shells or loaded rimfire cartridges mixed with rimfire shells processed	3000 tons per rolling twelve-month period	Monthly	N
31A For current operating scenario	Tons of loaded pistol, rifle, rimfire, and shotshell rounds processed	2200 tons per rolling twelve month period	Monthly	N
31A	Lbs of lead to Bleimeister processed Lbs of lead and bullet scrap processed	3,300 lbs per hour 4,500 lbs per hour	Daily	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
31B	Lbs of cartridges, primed shells, and primer processed	1,100 lbs per hour	Daily	Y
	Powder Burn Hours	7,500 hours per rolling 12-month period	Daily	
	Ammonia Injection rate	Testing	Continuous	
	Powder feed rate	Testing	Hourly	
34	pH of scrubber liquor	10 minimum	Monthly	N
34	Number of Batches	730 batches per rolling twelve-month period	Monthly	N
SN-07, SN-10, SN-13, SN-14, SN-21, SN-38, SN-47, and SN-XX, combined.	Tons of VOCs per rolling twelve-month period	81.3 tons	Monthly	N
58	Wetting agent/fume suppressant concentration	As specified by Manufacturer	Monthly	N
SN-48, SN-49, SN-50, SN-51, SN-52, SN-53, SN-54, SN-55, SN-56, and SN-57	Maintenance Conducted	N/A	As performed	N
	Hours of operation	100 hours/year maximum per unit for maintenance checks/readiness testing; 50 hrs/year/unit for non-emergency, but these hours counted in 100 hrs maximum above	Monthly	N
SN-64A/B	Fuel throughput	25,000 gal per rolling twelve-month period	Monthly	N

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
1, 3/4, 5, 6, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 31A/B, 35, 36, 40, 41, 42, 43, 44, 45, 46, 47, 51, 52, 53, 54, 55, 56, 60B, 11/12/60A combined stack, 61A/B/C, 63A/B/C	5%	[Reg.18.501 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]	Inspector Observation
30, 34, 48, 49, 50, & 57	20%	[Reg.19.503 and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]	Inspector Observation

20. DELETED CONDITIONS:

Former SC	Justification for removal
None.	

21. 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
Shotshell body flame treatment units (2.3MMBtu/hr)	A-1	0.1	0.1	0.1	1.0	1.0	-	0.001
Centerfire Expansion Boilers (0.75 MMBtu/hr each) (3)	A-1	0.09	0.01	0.09	0.84	1.01	0.02	0.02
728A/B Shell Wash Gas Dryer (1.5 MMBtu/hr)	A-1	0.1	0.1	0.1	0.6	0.7	-	0.001
Centerfire Expansion Shell Wash/Dry (3,4 burners)	A-1	0.3	0.1	0.2	2.3	2.7	0.09	0.09
T-3 Vehicle Fueling Diesel Tank (600 gal)	A-3			0.001			0.001	0.001

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
T-4 Emergency Generator Diesel Tank (1,000 gal)	A-3			0.001			0.001	0.001
T-5 Firewater Diesel Tank (560 gal)	A-3			0.001			0.001	0.001
T-6 Firewater Diesel Tank (560 gal)	A-3			0.001			0.001	0.001
T-9 Emergency Generator WWPT Tank (100 gal)	A-3			0.001			0.001	0.001
6,000 gallon Sodium Hydroxide tank	A-4	No calculations needed						
Laboratory hood vents (3)	A-5						0.08	0.08
Closed containers (5 gallons or less)	A-8	No calculations needed						
Maintenance Booth Paint Exhaust (SN-21)	A-13			0.6				
Shotshell body printers (+1 tpy)	A-13	Negligible						
Shotshell body crimp waterproofing process	A-13			1.7			0.02	0.02
Pistol and revolver label printer and centerfire pistol and revolver label printer (+1 tpy)	A-13	Negligible						
Wastewater treatment sludge dewatering filter press, filter media exhaust	A-13	Negligible						
T-7 Boiler Diesel Fuel Tank (17,500 gal)	A-13			0.01			0.01	0.01
T-8 Boiler Diesel Fuel Tank (17,500 gal)	A-13			0.01			0.01	0.01

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Aqueous Ammonia Tanks SNCR	A-13						0.01 (NH_3)	0.01

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1272-AOP-R0

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Ammunition Operations, LLC (Lonoke)
Permit Number: 1272-AOP-R1
AFIN: 43-00024

$/ton factor	28.14	Annual Chargeable Emissions (tpy)	265.17
Permit Type	Modification	Permit Fee $	1000

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)	-12.27
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		15	16.2	1.2		
PM_{10}		15	16.2	1.2	1.2	16.2
$PM_{2.5}$		0	0	0		
SO_2		8.8	10.8	2	2	10.8
VOC		143.9	96	-47.9	-47.9	96
CO		60	69.1	9.1		
NO_X		90.2	132.6	42.4	42.4	132.6
Lead	☐	0.56	0.56	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Perchloroethylene	☑	9.9	0	-9.9	-9.9	0
Acetone	☑	0.4	0	-0.4	-0.4	0
Methylene Chloride	☑	0.08	0	-0.08	-0.08	0
HCl/Cl-	☑	9.16	9.16	0	0	9.16
Ammonia	☑	0	0.41	0.41	0.41	0.41