STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1272-AOP-R0 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
3/17/2022	New	• Confer an initial Title V Air Permit. The previous permit for the facility (Permit #: 1272-AR-13) was issued as a Minor Source. • Modify the permit to include the applicable NESHAP EEE subpart requirements for sources Cartridge Melting Pots (SN-02A/B), Rotary Furnace (SN-30) and Baghouse (SN-31). • Route emissions from SN-02A/B and SN-30 to SN-31.

6. REVIEWER'S NOTES:

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

- Confer an initial Title V Air Permit. The previous permit for the facility (Permit #: 1272-AR-13) was issued as a Minor Source.
- Modify the permit to include the applicable NESHAP EEE subpart requirements for sources Cartridge Melting Pots (SN-02A/B), Rotary Furnace (SN-30) and Baghouse (SN-31).
- Route emissions from SN-02A/B and SN-30 to SN-31.

The total permitted annual emission rate changes associated with this modification include increases/decreases of 7.2 tons per year (tpy) of PM/PM_{10}, 4.9 tpy of SO_2, 54.8 tpy of VOC, 31.2 tpy of CO, 18.3 tpy of NO_x, and -8.64 tpy of 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.

The facility was last inspected on June 27, 2018 and was found in compliance with no areas of concern.

8. PSD/GHG 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)
SN-48, SN-49, SN-50, SN-51, SN-52, SN-53, 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*

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-58	Nickel	40 CFR 63, Subpart WWWWWW - *National Emissions Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*
SN-02A, SN-02B, and SN-30	HAP	40 CFR 63, Subpart EEE - *National Emission Standard for Hazardous Air Pollutants from Hazardous Waste Combustors*

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? Y
(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? Y
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
SN-03, SN-04	40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning	SN03&04 meet definition of halogenated solvent cleaning
SN-48, SN-49, SN-50, SN-51, SN-52, SN-53, SN-54, SN-55, SN-56, and SN-57	40 CFR Part 63, Subpart ZZZZ - National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	SN48, SN49, SN50, SN51, SN52, SN53, SN54, SN55, SN56, SN57 meet definition of Stationary Reciprocating Internal Combustion Engines

Source	Inapplicable Regulation	Reason
SN-56	40 CFR Part 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	SN56 meets definition of Spark Ignition Internal Combustion Engines
SN-58	40 CFR Part 63, Subpart WWWWWW - National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations	SN58 meet definition of Standards for Plating and Polishing Operations

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-02A, SN-02B, and SN-30	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

The results of dispersion modeling are summarized below.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
*Lead	0.19315	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	0.144267	96.2

*Lead was the only pollutant that was evaluated for this permitting action (1272-AR-13). Lead NAAQS modeling was submitted by the applicant with the original de minimis application on May 12, 2017.

b) Non-Criteria Pollutants:

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?
Antimony	0.5	0.055	0.011466	Y
Arsenic	0.01	0.0011	0.001304	N
Beryllium	5E-05	5.5E-06	0.0024	N
Cadmium	0.002	2.2E-04	9.07E-03	N
Chromium	0.0002	2.2E-05	3.37E-04	N
Cobalt	0.02	2.2E-03	5.52E-03	N
Cyanide	5	0.55	0.000039	Y
Manganese	0.02	2.2E-03	5.54E-03	N
Mercury	0.025	2.75E-03	7.81E-03	N
Methylene Chloride	173.68	19.10	0.02	Y

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Nickel	1.5	0.165	0.0000957	Y
POM	0.2	2.2E-02	1.10E-01	N
Perchloroethylene	678.12	18.6	10.1	Y
Selenium	0.2	2.2E-02	1.66E-06	Y
Acetone	1187.73	130.58	0.1	Y

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. Refined modeling was performed for Arsenic using 2007—2011 MET data, which included Airminute values. The 2nd high value was selected as per the Modeling Protocol.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Arsenic	0.10	0.011	Y
Beryllium	0.0005	0.00048	Y
Cadmium	0.02	0.018	Y
Chromium	0.002	0.0007	Y
Cobalt	0.2	0.011	Y
Manganese	0.2	0.011	Y
Mercury	0.25	0.022	Y
PAH	2.0	0.29	Y

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 Y
If exempt, explain: The facility does not emit H_2S

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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3 Lead-0.001 lb/hr Antimony=1% of Pb			2.1 MM BTU/hr Pb stack test=0.000741 lb/hr
02A	Stack Test	Lead=0.007891 lb/hr Antimony=1% of Pb	Baghouse	99%	Routed to SN-31
02B	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	Baghouse	99%	Routed to SN-31
05	Historical Stack Testing of similar source, SN-11 for lead	Lead-0.031 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-0.0000055 lb/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
08, 09	Deleted sources				
10	Emissions based on mass balance	VOC = 3.2 lb/hr			17,100 lb/year limit
11	Stack Test	Lead = 0.031332 lb/hr Antimony = 1% of Pb	Baghouse	99%	Tested at 7000 lb/hr proc. Rate

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
12	Stack Test	Lead = 0.000162 lb/hr Antimony = 1% Pb	Baghouse	99%	Tested at 3500 lb/hr proc. Rate
13	VOC emissions based on volatility of Oakite and Cobratec 99 (benzatriazole)	VOC = 0.001 lb/hr			
14	VOC emissions based on volatility of Oakite and Cobratec 99 (benzatriazole)	VOC = 0.001 lb/hr			
15	Based on previous permitting experience of ECCI personnel, the review of emissions inventories of similar extrusion facilities, and vendor information, the emissions associated with extrusion are negligible	VOC = 0.01 lb/hr			
16	Deleted Source				
17	Stack testing for lead	PM/PM_{10}-0.001 lb/hr Lead-0.005 lb/hr Antimony-0.0003 lb/hr Arsenic-0.0001 lb/hr Pb is 1.2% arsenic & 5.2% antimony			Tested at a proc. rate of 8,122 lb/hr
18	Permit at the same rate as the tested emissions of the Shot Tower Drop Tube (SN-17)	PM/PM_{10}-0.001 lb/hr Lead-0.005 lb/hr Antimony-0.0003 lb/hr Arsenic-0.0001 lb/hr Pb is 1.2% arsenic & 5.2% antimony			
19	Permit at the same rate as the tested emissions of the Shot Tower Drop Tube (SN-17)	PM/PM_{10}-0.001 lb/hr Lead-0.005 lb/hr Antimony-0.0003 lb/hr Arsenic-0.0001 lb/hr Pb is 1.2% arsenic & 5.2% antimony			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
20	Stack tested for lead	PM/PM_{10}-0.1 lb/hr Lead-0.035 lb/hr Antimony-0.002 lb/hr Arsenic-0.0004 lb/hr Pb is 1.2% arsenic & 5.2% antimony			Tested at proc. Rate of 8122 lb/hr
21	Emissions from paint booth calculated by mass balance	Total VOC-0.141 lb/hr Acetone-0.088 lb/hr Methylene Chloride-0.018 lb/hr			Based on throughput of 3000 lbs/yr Paint typically 25% acetone, 25% MEK, 10% toluene, 5% Methylene Chloride, 5% Butyl Alcohol
22	Remington uses the results from the Function and Casualty Booth (SN-24)	PM/PM_{10}-0.1 lb/hr Lead-0.001 lb/hr Antimony-0.000052 lb/hr Arsenic 0.000012 lb/hr			Lead is 1.2% Arsenic and 5.2% Antimony
23	SN-23 is reasonably similar to the Ballistics Range (SN-25) that has been tested at 0.006 lbs/hr. Remington has historically permitted SN-23 at 0.008 lbs/hr	PM/PM_{10}-0.1 lb/hr- Lead-0.008 lb/hr- Antimony-0.00042 lb/hr Arsenic-0.0001 lb/hr			
24	Emissions have been stack tested for Lead	PM/PM_{10}-0.1 lb/hr- Lead-0.001 lb/hr Antimony-0.000052 lb/hr Arsenic-0.000012 lb/hr			Lead is 1.2% Arsenic and 5.2% Antimony
25	Stack testing for lead	Lb/hr PM/PM_{10}-0.1 Lead-0.006 Antimony-0.000312 Arsenic-0.000072	Rotoclone		Lead is 1.2% Arsenic and 5.2% Antimony

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	Lb/hr PM/PM_{10}-0.1 Lead-0.003 Antimony-0.000156 Arsenic-0.000036	Rotoclone		Lead is 1.2% Arsenic and 5.2% Antimony
27, 28, 29	Stack testing for lead	Lb/hr PM/PM_{10}-0.1 Lead-0.002 Antimony-0.000104 Arsenic-0.000024	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
02A,B ,30	Fifth Edition of AP-42, Section 1.4, Natural Gas Combustion Stack tested for Lead, Antimony, Arsenic—prior to installation of baghouse	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 And 2 natural gas melting pots – 2 x 1.5 MMBtu/hr common stack
32, 33	Sources deleted				

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.
35	Remington assumes emissions to be similar to those at SN-17, SN-18 and SN-19	Lb/hr PM/PM_{10}-0.1 Lead-0.005 Antimony-0.00026 Arsenic-0.00006			Lead is 1.2% Arsenic and 5.2% Antimony
36	Similar in operation to the Ballistics Range (SN-25) due to the nature of handling and inspection (SN-25) has been tested	Lb/hr PM/PM_{10}-0.1 Lead-0.006 Antimony-0.000312			
37	Source deleted				
38	Emissions calculated on mass balance	VOC-9.0 lb/hr			13,000 lb/yr annual limit
39	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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			Moved to Insignificant Activities
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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 lb/10^6 ft^3 VOC-5.8 lb/10^6 ft^3			1.5MM Btu/hr NG fired

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 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}-12.0 lb/10^6 ft^3 SO_2-0.6 lb/10^6 ft^3 NO_x-100.0 lb/10^6 ft^3 CO-21.0 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	Table 3.3-1 (Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines) from a guidance document on EPA's AP-42	Lb/hp-hr PM/PM_{10}- 2.20 E-03 SO_x-0.05 E-03 CO-6.68 E-03 NO_x-0.031 VOC-0.015			380 HP 500 hrs/yr
49	Table 3.3-1 (Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines) from a guidance document on EPA's AP-42	Lb/hp-hr PM/PM_{10}- 2.20 E-03 SO_x-0.05 E-03 CO-6.68 E-03 NO_x-0.031 VOC-0.015			380 HP 500 hrs/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/hp-hr PM/PM_{10}-0.0007 SO_x-8.09 E-03 CO-5.5 E-03 NO_x-0.024 VOC-7.05 E-04			830 HP diesel engine 500 hrs/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 $PM/_{PM10}$-0.034 SO_2-5.88E-4 CO-0.386 NO_x-3.17 VOC-0.12			Emissions based on 100 hrs/yr operation
54	AP-42 Table 3.3-1	$PM/_{PM10}$-0.1 SO_2-0.84 CO-0.99 NO_x-1.63 VOC-3.1			Emissions based on 100 hrs/yr operation
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/hp-hr PM/PM_{10}-0.0007 SO_x-8.09 E-03 CO-5.5 E-03 NO_x-0.024 VOC-7.05 E-04			160 HP diesel Emissions based on 500 hrs/yr
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)			
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)*			

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			48.4 tpy limit on usage
60A	Lead-stack testing of SN-01	Lead-0.000741 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

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
02A,B, and 30	HAPs	Comprehensive Performance Testing, Confirmatory Performance Test, Destruction and Removal Efficiency, Hazardous Waste Residence Time Calculations	Initial Test	Subpart EEE requirements

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)
02A,B, and 30	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	CEMS, COMs, Comprehensive Performance Testing	Hourly	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)
3, 4	Gallons of Perchloroethylene per rolling twelve-month period	1450	Monthly	N
30	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
31	Tons of loaded pistol, rifle, rimfire, and shotshell rounds processed	2200 tons per rolling twelve month period	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
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

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, 02A/02B/31 combined stack, 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, and 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	Inspector Observation

SN	Opacity	Justification for limit	Compliance Mechanism
		and 8-4-311]	

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
Shotshell body printers (+1 tpy)	A-13	Negligible						
Closed containers (5 gallons or less)	A-8	No calculations needed						
6,000 gallon Sodium Hydroxide tank	A-4	No calculations needed						
Laboratory hood vents (3)	A-5						0.08	0.08
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						
Centerfire Expansion Shell Wash/Dry (3)	A-13	0.09	0.01	0.09	0.88	1.01	0.02	0.02

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
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 Shell Wash Gas Dryer (1.0 MMBtu/hr)	A-1	0.1	0.1	0.1	0.4	0.5	-	0.001
728B Shell Wash Dryer (0.5 MMBtu/hr)	A-1	0.1	0.1	0.1	0.2	0.3	-	0.001

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-AR-13

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Ammunition Operations, LLC
Permit Number: 1272-AOP-R0
AFIN: 43-00024

$/ton factor	25.13	Annual Chargeable Emissions (tpy)	268.99316
Permit Type	Initial Permit	Permit Fee $	6759.7981

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)	95.43437005
Initial Title V Permit Fee Chargeable Emissions (tpy)	268.9931601

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		7.8	15	7.2		
PM_{10}		7.8	15	7.2	7.2	15
$PM_{2.5}$		0	0	0		
SO_2		3.9	8.8	4.9	4.9	8.8
VOC		88.5	143.3	54.8	54.8	143.3
CO		28.8	60	31.2		
NO_X		71.9	90.2	18.3	18.3	90.2
Antimony	☑	0.11045	0.05228	-0.05817	-0.05817	0.05228

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Arsenic	☑	0.00591	0.03387	0.02796	0.02796	0.03387
Beryllium Compounds	☑	0	0.0011	0.0011	0.0011	0.0011
Cadmium Compounds	☑	0	0.04	0.04	0.04	0.04
Chromium Compounds	☑	0	0.0011	0.0011	0.0011	0.0011
Cobalt Compounds	☑	0	0.025	0.025	0.025	0.025
Cyanide Compounds	☑	0.00017	0.00018	0.00001	0.00001	0.00018
Dioxins/Furans	☑	0	5.30E-08	0.000000053	5.3E-08	5.3E-08
Lead	☑	0.86184	0.5532	-0.30864	-0.30864	0.5532
Manganese Compounds	☑	0	0.025	0.025	0.025	0.025
Mercury Compounds	☑	0	0.035	0.035	0.035	0.035
Nickel Compounds	☑	0.00042	0.02543	0.02501	0.02501	0.02543
POMs	☑	0	0.46	0.46	0.46	0.46
Perchloroethylene	☑	0	9.9	9.9	9.9	9.9
Selenium Compounds	☑	0	0.061	0.061	0.061	0.061
Acetone	☑	0.4	0.4	0	0	0.4
Methylene Chloride	☑	0.08	0.08	0	0	0.08