STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0617-AOP-R22 AFIN: 07-00035

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Aerojet Rocketdyne, Inc.
East Walton Road, (Highway 274), Highland Industrial Park
East Camden, Arkansas 71701

3. PERMIT WRITER:

Shawn Hutchings

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
1/9/2025	Renewal	Many new sources and insignificant activities all incorporated into the renewal. See Reviewers notes
12/18/2024	Minor Modification	
10/22/2024	Minor Modification	
10/17/2024	AA	
6/06/2024	AA	
4/30/2024	Modification	
4/10/2024	Minor Modification	
3/27/2024	Modification	

6. REVIEWER'S NOTES:

Aerojet Rocketdyne, Inc. currently operates a manufacturing facility located in the Highland Industrial Park near East Camden, Arkansas. This permit is the Title V renewal for the facility.

It also incorporates five other applications. Two administrative amendments to replace the insignificant activity cooling towers and install a small explosives grinder as an insignificant activity, two modification for an GMLRS Expansion project and include unpermitted sources, and a minor modification to add emergency engines and replace a boiler. The changes include the following:

1. Add an explosives grinder as SN-73G increase SN-73 total throughput limit (SC 97) from 917,000 lb/yr to 3,000,000 lb/yr.
2. Add three propellant mixers as SN-146H, I, and J with a cooling tower at each mixer as Group A-13 IAs.
3. Add seven emission points for the GMLRS building including a case lining, cleaning, and curing as SN-150A through E, Case abrading as SN-150F, and Floor operations as SN-44AK.
4. Add a rocket test facility for GMLRS as SN-03H, and floor operations as SN-44AL
5. Add emergency generators (natural gas-fired) for the GMLRS Building (2 units), Test Stand, and Guard House as SN-151A & B, 152, and 153.
6. Add Floor Operations at seven new locations as SN-44AD – AJ.
7. Add seven Propellant Mixers as SN-146A – G.
8. Add five Small Propellant Mixers as Group A-13 Insignificant Activities.
9. Add a Parts Washer at Building M-8 as SN-147.
10. Add a Trolley Case Lining Operation at Building 2-SH-15 as SN-148A – C.
11. Add four Diesel Refrigeration Trailers as SN-149A – D.
12. Add four Ultrasonic Cleaners as Group A-13 Insignificant Activities.
13. Add Propellant Paste Mixing at Building 2-SH-4 as a Group A-13 Insignificant Activity.
14. Add emissions of Cobalt at the RTF (SN-03), TTF (SN-04), and EXTEF (SN-30).
15. Convert the SN-13 ultrasonic cleaner to a Group A-13 Insignificant Activity and change its location.
16. Remove the Lead content allowance for surface coating compounds (PC 19) and adhesives (PC 27).
17. Adjust floor operation emission rates for SN-44O, P, Q, and R to reflect usage of only non-HAP cleaning solvents.
18. Increase the throughput limit of rocket propellant (SC 12) at RTF Bay 49 (SN-03G) from 2,000 lb/hr to 20,000 lb/hr to allow testing of larger motors at the bay with the newest monitoring equipment.
19. Replace cooling towers at building 23 and 51.
20. Add a new ultrasonic cleaner at building M-2.
21. Replace SN-105 with a Nat Gas Emergency Generator at Building 2-SH-9 (250 kW).
22. Add new boilers SN-154, SN-155, SN-156, 161A, 161B, 161C, and 161D.
23. Add new Emergency Generators SN-157 and 160.
24. Add a Grit blast machine at GMLRS Building (SN-67AA).
25. Small (5-gal) Propellant Mixer at Building A-9 (A-13 IA).
26. Add a semi-automated solvent wipe station to SN-150F
27. Rename the Adhesives material category to Case Lining.
28. Rename SN-67Z

29. Add SN-07, 28, 42, 52A, 52B, 75, 111, and 140 to the case lining plantwide group (PC 25-28)
30. Correct SN-149A-D annual emission rates.
31. Remove maleic anhydride emissions from SN-150
32. Remove the vibratory ceramic pill cleaner from A-13 IAs
33. Correct nomenclature of NESHAP Subpart GG plantwide conditions. Other Changes
34. Incorporate classification of 1-Bromopropane as a HAP.
35. Adjust Floor Operation solvent usage allowances.
36. Consolidate cleaning and coating sources.
37. Added SN-15, Spray Liner Operations #2 at Building M-2, and SN-159, Vacuum Insulation Mixer at Building 2-SH-4.
38. Replaced SN-75.
39. Remove SN-72.

Permitted emission rates increased 3.2 tpy of particulate matter, 2.8 tpy of SO_2, 10.5 tpy of VOC, 47.5 tpy of CO, 37.6 tpy of NO_x, 35.92 tpy of HAPs, 1.2 tpy of acetone, and 6 tpy of ammonia.

In addition to the changes requested. The facility requested only total HAPs be listed for small natural gas fired sources and that lead emissions not be listed for those sources. Lead is a criteria pollutant and should be listed. HAPs were listed according to the Divisions current policy. The requested changes were not made.

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 unpermitted existing sources included in this modification. The final permit will bring those issues into compliance.

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	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-86, SN-87, SN-89, SN-95, SN-102, SN-103, SN-105, SN-120, SN-123, SN-138, SN-139, SN-151A and B, SN-152, SN-153, and SN-157	VOC CO NO_x	NSPS JJJJ
SN-86, SN-87, SN-89, SN-95, SN-102, SN-103, SN-105, SN-120, SN-123, SN-138, SN-139, SN-151A and B, SN-152, SN-153, SN-157 SN-121, SN-130, SN-144, SN-160 SN-81, 81A, 81B, 149A, 149B, 149C, and 149D	HAPs	MACT ZZZZ
Plantwide	VOC/HAP	NESHAP Part 63 Subpart GG
SN- 02C, 02F, 02G, 25E, 25F, 84B, 84C, 94, 96, 97, 112, 113, 115, 116, 117, 119, 122, 154, 155, 156, 161A, 161B, 161C, and 161D	HAPs	MACT DDDDD
SN-121, SN-130, SN-144, SN-160, SN-81, 81A, 81B, 149A, 149B, 149C, and 149D	Criteria	NSPS IIII

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 added with this modification.				

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
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
67, 73, 104, 118, 124, 125, 126, 128	Particulate	Pre-control below major source thresholds.

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).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
1,1,1-Trichloroethane	1,909.90	2.10E+02	3.31E+02	N

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acetone	1,781.60	1.96E+02	2.19E+02	N
Acrolein	0.20	2.20E-02	1.44E-01	N
Arsenic	0.01	1.10E-03	2.13E-05	Y
Beryllium	0.0001	5.50E-06	1.28E-06	Y
Cadmium	0.01	1.10E-03	1.88E+00	N
Chlorine	0.29	3.19E-02	2.98E+02	N
Chromium	0.01	1.10E-03	1.99E+01	N
Cobalt	0.02	2.20E-03	4.42E-01	N
Ethyl Benzene	86.84	9.55E+00	8.89E+01	N
Hydrogen Chloride	2.98	3.28E-01	2.14E+04	N
Hydrogen Fluoride	0.41	4.50E-02	6.71E+01	N
Lead	0.05	5.50E-03	2.53E+02	N
Manganese	0.01	1.10E-02	4.05E-05	Y
Mercury	0.03	2.75E-03	2.77E-05	Y
Methanol	262	2.88E+01	1.47E+02	N
Methylene Chloride	173.68	1.91E+01	1.89E+02	N
Methylenediphenyl 4,4'-Diisocyanate (MDI)	0.05	5.63E-03	5.87E-02	N
MIBK	81.93	9.01E+00	2.87E+02	N
1-Bromo Propane	0.5	5.53E-02	7.26E+00	N
Selenium	0.20	2.20E-02	2.56E-06	Y
Toluene	75.34	8.29E+00	3.36E+02	N

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Toluene-2,4-diisocyanate (2,4-TDI)	0.01	7.84E-04	1.38E-02	N
Xylene	434.2	4.78E+01	3.34E+02	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?
1,1,1-Trichloroethane	19,099.0	1.40E+03	Y
Acetone	17,816.0	4.01E+02	Y
Acrolein	2.0	5.88E-03	Y
Cadmium	0.1	2.30E-04	Y
Chlorine	2.9	*	
Chromium	0.1	1.70E-01	N
Cobalt	0.2	2.00E-05	Y
Ethyl Benzene	868.4	2.52E+02	Y
Hydrogen Chloride	29.8	*	Y
Hydrogen Fluoride	4.1	*	Y
Lead	0.5	1.10E-04	Y
Methanol	2620	2.62E+02	Y
Methylene Chloride	1736.8	9.11E+02	Y
Methylenediphenyl 4,4'-Diisocyanate (MDI)	0.5	9.30E-02	Y
MIBK	819.3	6.77E+02	Y

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
1-Bromopropane	5	2.06E+01	N
Toluene	753.4	6.14E+02	Y
Toluene-2,4-diisocyanate (2,4-TDI)	0.1	2.19E-02	Y
Xylene	4342	8.81E+02	Y

- These pollutants were evaluated in a Risk Assessment performed for the E&E Hazardous Waste Branch

Pollutant	Alternative Standard	Modeled Concentration ($\mu g/m^3$)	Pass?
Chromium	5 $\mu g/m^3$ OSHA 8-hr TWA	0.17	Y
1-Bromopropane	1.7 $\mu g/m^3$ OSHA Chronic REL	1.07	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: Facility not permitted to emit H2S

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
Natural Gas Fired sources	AP-42 Natural gas	Varied	None	None	
Engines	AP-42 Combustion engines	Varied	None	None	
Bubbled Sources, Lacquer, foam blowing	Usage Rates Mass Balance	Varied	None	None	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
03A-H 04 30	EQTCH Products of Combustion model	Varied	None	None	
Blast Machines	BAAQMD emission factors for abrasive blasting	Varied per material used	Cyclone and Baghouses	90 and 99%	
Tanks	EPA Tanks Program	Equations	None	none	
13 19	AP-42 Table 4.6-2	0.08 Lb/hr/ft2			
56	Mass Balance				
63	Mass Balance		Condenser	95%	
64 84 98 99 141, 142, 143a, b, c SN-146A through J, SN-148A, 148B, 148C 150A, 150B, 150C, 150D, 150E, 150F 158 159	Mass Balance		None	N/A	
73 104 118, 124	Mass Balance	5% material loss	Baghouse	99.9	

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
This permit contains no testing 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)
24, 125, 126	differential pressure and/or air velocity	Pressure gauge, or velocity meter	Weekly	Y

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)
SN- 02C, 02F, 02G, 25E, 25F, 84B, 84C, 94, 96, 97, 112, 113, 115, 116, 117, 119, 122, 154, 155, 156, 161A, 161B, 161C, and 161D	DDDDD Records	None	As needed	Y
03	Materials Tested	Table in Specific Condition 12	Monthly	Y
11	Lacquer premix used	20,000 pounds	Monthly	Y
4	Materials Processed hourly. Emissions monthly	Conditions 16, 17, and 18	Daily, Monthly	Y
30	Energetic materials used	300 pounds per hour 24,000 pounds per 12 months	Monthly	Y
47	Resin usage	40,000 lbs/12 mo	Monthly	Y
48A, 48B, and 49	Phenolic Resin	500,000 lbs/12 mo	Monthly	Y
63	Stabilizing Solvent	20,000lb/12 months	Monthly	Y
81, 81A, 81B	Hours	8760 per 12-month combined	Monthly	Y
84	Asphalt and wax coatings	15,000 pounds each	Monthly	Y

Emergency Engines	Operation hours and maintenance	Hours based on calculations see permit	Monthly	Y
SN-07, 12, 13, 19, 20A & B, 22, 24, 28, 36, 37B, 38A & B, 39A & B, 40A & B, 41A & B, 42, 43, 44A - AL, 52A & B, 74, 75, 76A & B, 77A & B, 78A & B, 85, 98, 99, 101A & B, 107, 108, 109, 110, 111, 125, 126, 127, 128, 129, 140, 141, 145, 147, and 158	Solvent usage	See Plantwide Condition 14	Monthly	Y
SN-12, 24, 43, 44A - AL, 101A & B, 125, 126, and 145	Surface Coating Materials	63,000 pounds	Monthly	Y
sources SN-12, 24, 43, 44A - AL, 101A & B, 125, 126, and 145	VOC and HAP contents	See table Plantwide Condition 19	Monthly	Y
SN-44A – AL, SN-100A, SN-100B and SN-128	Miscellaneous Materials	35,500 pounds	Monthly	Y
SN-44A – AL, SN-100A, SN-100B and SN-128	VOC and HAP content	See table Plantwide Condition 23	Monthly	Y
SN-39A & B, 40A & B, 41A & B, 44A – AL, 76A & B, 77A & B, 78A & B, 98, 99, 101A & B, 108, 109, 111, and 140	Usage	41,400 lbs per 12 mo	Monthly	Y

SN-39A & B, 40A & B, 41A & B, 44A – AL, 76A & B, 77A & B, 78A & B, 98, 99, 101A & B, 108, 109, 111, and 14	Content	Plantwide 25	Monthly	Y
SN-48 and 49	Phenolic Molding compounds	500,000 per year	Monthly	Y
SN-67C through AA	Blasting Media	300,000 per 12 months	Monthly	Y
All	HAP substitution records	Comply with Plantwide Condition 22	Annual	N
71	Gasoline throughput	200,000 gallons per 12 months	Monthly	Y
SN-86, SN-87, SN-89, SN-95, SN-102, SN-103, SN-105, SN-120, SN-123, SN-138, SN-139, SN-151A and B, SN-152, SN-153, SN-157 SN-121, SN-130, SN-144, SN-160 SN-81, 81A, 81B, 149A, 149B, 149C, and 149D	IIII JJJJ and ZZZZ records	None	As needed	Y
84	Throughput	15,000 pounds asphalt coating	Monthly	Y
SN-86, SN-87, SN-89, SN-95, SN-102, SN-103, SN-105, SN-120, SN-123, SN-138, SN-139, SN-151A and B, SN-152, SN-153,	Hours of Operation	500 per 12 mo.	Monthly	Y

SN-157 SN-121, SN-130, SN-144, SN-160 SN-81, 81A, 81B, 149A, 149B, 149C, and 149D				
Plantwide	GG Records	None	As Needed	Y
143A 143B 143C 148A 148B 148C 150A 150B 150C 150D 150E 159	VOC and HAP emissions	Permit limits	Monthly	Y

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
SN-02C, 02F, 02G, 25A, 25C, 25E, 25F, 69E, 69F, 69G, 69H, 84, 84B, 84C, 94, 96, 97, 101A, 101B, 112, 113, 115, 116, 117, 119, 122, 131, 132, 133, 134, 135, 136, 137, 154, 155, 156, 161A, 161B, 161C, 161D	5%	Department Guidance	Natural Gas Combustion only.
SN-40A, 40B	5%	Department Guidance	Weekly Observations
56	5%	Department Guidance	
67C through AA	5%	Department Guidance	Weekly Observations
73, 73B, 73C, 73D, 73E, 73F, 73G	5%	Department Guidance	Established standard operating procedures for processing energetic materials.
81, 81A, 81B, 149A. 149B, 149C, 149D	20%	Department Guidance	Daily Observations

SN	Opacity	Justification for limit	Compliance Mechanism
SN-86 SN-87 SN-89, SN-90 SN-95, SN-102 SN-103, SN-105 SN-120, SN-123 SN-138, SN-139 SN-151A, SN-151B SN-152, SN-153 SN-157	5%	Department Guidance	Natural Gas Combustion only.
SN-91 SN-92 SN-93 SN-106 SN-121 SN-130 SN-144 SN-160	20%	Department Guidance	
SN-24 SN-43 SN-125 SN-126	5%	Department Guidance	Weekly control device monitoring
81, 81A, 81B	20%	Department Guidance	Daily Observation
118, 124, 12, 44A-44AL, 100A, 100B, 56, 145, 104, 118, 124	5%	Department Guidance	Plantwide Condition 5

20. DELETED CONDITIONS:

Former SC	Justification for removal
Sources were removed or consolidated no individual requirements were removed.	

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
DOA Storage Tank (3,500 gallons)	Group A, Number 3			0.01				
Diesel Fuel Tank #1, 550	Group A, Number 3			0.01				

gal, Building 41, for SN-81								
Diesel Fuel Tank #2, 550 gal, Building 41, for SN-81	Group A, Number 3			0.01				
Diesel Fuel Tank, 500 gal, Building 66, for SN-91	Group A, Number 3			0.01				
Diesel Fuel Tank, 200 gal, Building M-2, for SN-92	Group A, Number 3			0.01				
Diesel Fuel Tank, 520 gal, Building M-14, for SN-106	Group A, Number 3			0.01				
Diesel Fuel Tank, 460 gal, Building 105, for SN-121	Group A, Number 3			0.01				
Diesel Fuel Tank, 2,400 gal, Building 301, for SN-141	Group A, Number 3			0.01				
Total	Group A, Number 3			0.08				
Water Heater #4 (Building 301) 1.05 MMBTU	Group A, Number 1	0.04	0.01	0.03	0.38	0.46	0.01	
Water Heater #2 (Building M-11) 1.314 MMBTU	Group A, Number 1	0.05	0.01	0.04	0.48	0.57	0.02	
Laboratory at Building 17	Group A, Number 5			0.79				0.79

Laboratory at Building 109	Group A, Number 5			0.79				0.79
Total	Group A, Number 5			1.59				1.59
MLRS Igniter Assembly at Building M-85	Group A, Number 13			0.09				0.06
Ingredient Preparation Room	Group A, Number 13	0.03						
Metalworking Lathes at Building 2-SH-3	Group A, Number 13	0.28						
Polymer Tank Farm	Group A, Number 13			0.04				
Parts Fabrication in Trailer at Building 2-SH-4	Group A, Number 13	0.27						
Dry Ice Blasting	Group A, Number 13	CO2 only						
Vibratory Ceramic Pill Parts Cleaner at Building M-82	Group A, Number 13	0.01						
Winding and Curing Operation A at Building M-8	Group A, Number 13			0.07			0.01	0.01
Winding and Curing Operation B at Building M-8	Group A, Number 13			0.07			0.01	0.01

Winding and Curing Operation C at Building M-8	Group A, Number 13			0.07			0.01	0.01
Winding and Curing Operation D at Building M-8	Group A, Number 13			0.07			0.01	0.01
Composite Case Grinder A at Building M-8	Group A, Number 13	0.05						
Composite Case Grinder B at Building M-8	Group A, Number 13	0.05						
Composite Case Grinder C at Building M-8	Group A, Number 13	0.05						
Composite Case Grinder D at Building M-8	Group A, Number 13	0.05						
Saw, Drill, & Chamfer Machine A at Building M-8	Group A, Number 13	0.21						
Saw, Drill, & Chamfer Machine B at Building M-8	Group A, Number 13	0.21						
Saw, Drill, & Chamfer Machine C at Building M-8	Group A, Number 13	0.21						
Winding and Curing Operation at Building M-85	Group A, Number 13			0.07			0.01	0.01

Six (6) Cooling Towers at Buildings 2-SH-14, 2-SH-3, 23, 24, 25, & 51	Group A, Number 13	0.44						
Ultrasonic Cleaner	Group A, Number 13			0.13				
Total	Group A, Number 13	1.81		0.61			0.11	0.11

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 #
0617-AOP-R21

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Aerojet Rocketdyne, Inc.
Permit #: 0617-AOP-R22
AFIN: 07-00035

$/ton factor	28.14	Annual Chargeable Emissions (tpy)	941.36
Permit Type	Modification	Permit Fee $	2643.753

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)	93.95
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		236.1	239.3	3.2		
PM_{10}		236.1	239.3	3.2	3.2	239.3
$PM_{2.5}$			0	0		
SO_2		10.4	13.2	2.8	2.8	13.2
VOC		221.3	240.8	19.5	19.5	240.8
CO		111.6	159.1	47.5		
NO_X		91.6	129.2	37.6	37.6	129.2
Lead	☐	7.37	4.45036	-2.91964		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Chlorine	☑	11.3	11.3	0	0	11.3
1-Bromopropane	☐		39.5	39.5		
Ethyl Benzene	☐	10.58	11.09	0.51		
Hydrogen Chloride	☑	187.8	187.8	0	0	187.8
Hydrogen Fluoride	☑	1.1	1.1	0	0	1.1
Methanol	☐	19.93	19.98	0.05		
Methylene Chloride	☑	6.87	30.52	23.65	23.65	30.52
Methyl Isobutyl Ketone	☐	39.56	40.56	1		
Toluene	☐	48.52	49.6	1.08		
1,1,1-Trichloroethane	☑	44.66	44.66	0	0	44.66
Xylene	☐	42	43.6	1.6		
Total HAPs	☐	15.52	471.13	455.61		
Acetone	☑	33.7	34.9	1.2	1.2	34.9
Ammonia	☑	0.08	6.08	6	6	6.08
HFC-245fa	☑	2.5	2.5	0	0	2.5
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Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
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