

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0617-AOP-R18 AFIN: 07-00035

1. PERMITTING AUTHORITY:

Arkansas Department 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
10/10/2019	Renewal	Increase in production at SN-04
03/22/19	Modification	Increase Gasoline Throughput
7/9/2019	AA	New Grit Blaster
11/07/19	Modification	Record keeping change. No permitted increase. Would allow more actual production.
02/13/20	Minor Mod/Modification	New boilers new grit blasters.

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.

This permit also includes a modifications to increase the annual gasoline throughput for SN-71 to 200,000 gallons per year, to add a grit blaster and two electric boilers to the insignificant activities list as Category A-13, to add a diesel fuel tanks to the insignificant activities list category A-3, increase emissions and to change the record keeping for SN-04 to keep track of pollutants emitted instead of tons processed, to add SN-114 a NG Boiler at Building 39, to add SN-115 a NG Boiler #1 at Building 105, to add SN-116 a NG Boiler #2 at Building105, to add SN-117 a NG Boiler #3 at Building 105, to add SN-118 a- Propellant Cutting Operation at Building 106, to add SN-119 a NG Boiler at Building 106 , to add SN-120 a NG Emergency Power Generator at Building 106, to add SN-121 a Diesel Fire Pump Engine at Building 106, to add SN-122 a NG Boiler at Building 107, to add SN-123 a NG Emergency Power Generator at Building 107. NG Boiler at Building 106 , to add SN-120 a NG Emergency Power Generator at Building 106, to add SN-121 a Diesel Fire Pump Engine at Building 106, to add SN-122 a NG Boiler at Building 107, to add SN-123 a NG Emergency Power Generator at Building 107. The following sources were removed from the permit SN-67 A, B, D, K, & N. Permitted emission rates increased 41.2 tpy of particulate matter, 1 tpy of SO₂, 25.7 tpy of VOC, 4.1 tpy of CO, 4.4 tpy of chlorine. All other pollutants stayed the same or decreased.

7. COMPLIANCE STATUS:

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

This permit is for an increase in gasoline throughput. The facility had previously exceeded their prior throughput limit. The facility made compliance aware of the issue.

The permit renewal application was not complete until after the 180 day deadline for submittals as required in General Provision 3.

The facility submitted a minor modification for a number of new sources. During review it was found that the facility had started construction on two of the sources.

All the above issues have been referred to enforcement and are being addressed in a CAO.

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 and SN-95, 102, 103, 105, 120, 123	VOC CO NO _x	NSPS JJJJ
81, 86, 87, 89, 90, 91, 92, 93, 95, 102, 103, 105, 106, 120, 121, 123	HAPs	MACT ZZZZ
71	VOC/HAP	NSPS Kb
72	VOC/HAP	NSPS Kb
Plantwide	VOC/HAP	NESHAP Part 63 Subpart GG
02A, 02B, 02C, 02D, 02E, 02F, 02H, SN-25A, SN-25B, SN-25C, SN-25D, SN-25E, SN-25F, SN-25G, SN-69A, SN-69B, SN-69C, SN-69D, SN-69E, SN-69F, SN-69G, SN-69H, SN-94, SN-96, SN-97, SN-111, SN-112, 113, 114, 115, 116, 117, 119, 122	HAPs	MACT DDDDD
81, 106, 121	Criteria	NSPS IIII

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
If not, explain why.

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:

Based on Department procedures for review of non-criteria pollutants, emissions of non-criteria pollutants are below thresholds of concern.

The HAP emission rates affected by the change were all reduced due to a change in calculation methodology.

13. 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	
03A-F 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 36	AP-42 Table 4.6-2	0.08 Lb/hr/ft2			
56	Mass Balance				
63	Mass Balance		Condenser	95%	
64 80 84 98	Mass Balance		None	N/A	
73 104	Mass Balance	5% material loss	Baghouse	99.9	

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
This permit modification adds no testing.				

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)
This permit modification adds no monitoring or CEMs.				

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)
71	Gasoline	200,000 gal/12 mo	Monthly	Y
SN-02A, 02B, 02C, 02D, 02E, 02F, 02G, 25A, 25C, 25E, 25F, 69C, 69D, 69E, 69F, 69G, 69H, 94, 95, 112, 113, 114, 115, 116, 117, 119, and 122	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	Conditions 14,	Daily,	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
	Processed hourly. Emissions montly	15, and 16	Monthly	
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
80	Throughput Compositions	300 gallons 2lb/gal voc 13.09 lb/gal CFC-113	Monthly	Y
81	Fuel	131,400 gallons	Monthly	Y
84	Asphalt and wax coatings	15,000 pounds each	Monthly	Y
Emergency Engines	Operation hours and maintainence	Hours based on calculations see permit	Monthly	Y
SN-07, SN-12, SN-13, SN-19, SN-20, SN22, SN-24, SN-28, SN-36 through SN-44, SN-52, SN-74 through SN-78, SN-85, SN-99, SN- 100A, SN-100B, and SN-107 through SN-111	Solvent usage	See Plantwide Condition 9	Monthly	Y
SN-12, SN-24, SN-43, SN-44, SN-100A, and SN-100B	Surface Coating Materials	63,000 pounds	Monthly	Y
SN-12, SN-24, SN-43, SN-44, SN-100A, and SN-100B	VOC and HAP contents	See table Plantwide Condition 13	Monthly	Y
SN-44A – D,	Miscellaneous	35500 pounds	Monthly	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
SN-100A, and SN-100B	Materials			
SN-44A – D, SN-100A, and SN-100B	VOC and HAP content	See table Plantwide Condition 175	Monthly	Y
SN-39A-B, SN- 40, SN-41, SN- 76, SN-77, SN- 78, SN-99, SN- 108, and SN-109	Usage	41400 lbs per 12 mo	Monthly	Y
SN-39A-B, SN- 40, SN-41, SN- 76, SN-77, SN- 78, SN-99, SN- 108, and SN-109	Content	Plantwide 21	Monthly	Y
SN-48 and 49	Phenolic Molding compounds	500,000 per year	Monthly	Y
SN-67C through S	Blasting Media	300,000 per 12 months	Monthly	Y
SN-39, SN-40, SN-41, SN-76, SN-77 and/or SN-	adhesives, adhesive primers, adhesive catalysts, barrier coatings, and related compounds	27,600 pounds	Monthly	Y
SN-39, SN-40, SN-41, SN-76, SN-77 and/or SN-	VOC and HAP content	See table Plantwide Condition 19	Monthly	Y
All	HAP substitution records	Comply with Plantwide Condition 22	Annual	N
71	Gasoline throughput	200,000 gallons per 12 months	Monthly	Y
72	Diesel Throughput	40,000 gallons per year	Monthly	Y
81 SN-86, SN- 87, SN-89, SN- 95, SN-102, SN- 103, SN-105, SN-106, SN-120,	III JJJJ and ZZZZ records	None	As needed	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
SN-121, and SN-123				
84	Throughput	15,000 pounds asphalt coating	Monthly	Y
SN-86, SN-87, SN-89, SN-95, SN-102, SN-103, SN-105, SN-106, SN-120, SN-121, and SN-123	Hours of Operation	500 per 12 mo.	Monthly	Y
Plantwide	GG Records	None	As Needed	Y

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
112	5%	Department Guidance	Natural Gas Usage
113	5%	Department Guidance	
81	20%	Department Guidance	Daily Observations
SN-02A, 02B, 02C, 02D, 02E, 02F, 02G, 25A, 25C, 25E, 25F, 69C, 69D, 69E, 69F, 69G, 69H, 94, 95, 112, 113, 114, 115, 116, 117, 119, and 122	5%	Department Guidance,	Natural Gas Combustion,
12, 24, 39A, 39B, 41A, 41B, 43, 44A, 44B, 44C, 44D, 56, 67A through R, 73, 76A, 76B, 77A, 77B, 78, 84, 98, 99, 100A, 100B, 104, 118	5%	Department Guidance	Weekly observation,
73	5%	Department Guidance	Compliance with this condition will be demonstrated by the permittee's established standard operating procedures for processing energetic materials.

SN	Opacity	Justification for limit	Compliance Mechanism
81	20%	Department Guidance	Daily Observation
SN-86 SN-87 SN-89 SN-90 SN-95	5%	Department Guidance	Natural Gas Combustion
SN-91 SN-92 SN-93 SN-106 SN-121	20%	Department Guidance	Daily Observation after 24 consecutive hours of operation

18. DELETED CONDITIONS:

Former SC	Justification for removal
No conditions were deleted.	

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	
DOA Storage Tank (3,500 gallons)	Group A, Number 3			0.01					
MLRS Igniter Assembly (SN-55) at Building M-85	Group A, Number 13			0.09				.06	.06
SN-60 Ingredient Preparation Room	Group A, Number 13	0.03							
SN-66 Lathes at	Group A, Number	.28							

Building 2-SH-3	13							
SN-70 Polymer Tank Farm	Group A, Number 13			0.04				
Motor Case Cutting Equipment	Group A, Number 13	.27						
Motor Case Grinding	Group A, Number 13	.14						
Composite Case Grinding Machine at Building M-8	Group A, Number 13	.01						
Dry Ice Blasting	Group A Number 13	CO ₂ only. Not regulated until threshold met.						
Grit Blaster	Group A Number 13	0.19						
Grit Blaster M85	Group A Number 13	0.03						
two (2) Electric Boilers at Building M8	Group A Number 13							
Total	A-13	.95		.13		.06	.06	
Total	A-13	.95		.13		.06	.06	0.02
Water Heater Building #47	Group A, Number 1	0.14	0.01	0.09	1.19	1.41	0.01	0.02
Water Heater	Group A, Number 1	0.1	0.1	0.1	0.8	0.9		0.02

Building #48								
Water Heater Building #66	Group A, Number 1	0.1	0.1	0.1	0.6	0.7		0.01
Water Heater Building #66	Group A, Number 1	0.1	0.1	0.1	0.6	0.7		0.01
Water Heater Building 301	Group A, Number 1	0.1	0.1	0.1	0.23	0.28		0.01
Water Heater Building 301	Group A, Number 1	0.1	0.1	0.1	0.23	0.28		0.12
Water Heater Building 301	Group A, Number 1	0.1	0.1	0.1	0.36	0.43		
Total	A-1	0.8	0.7	0.7	4.02	4.69		
Diesel Tank for Generator at M-2 Building	Group A, Number 3		0.01					
Diesel Fuel Tank for SN-91	Group A, Number 3		0.01					
Diesel Tank for SN-92	Group A, Number 3		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 #
0617-AOP-R17

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Aerojet Rocketdyne, Inc.
 Permit #: 0617-AOP-R18
 AFIN: 07-00035

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	802.57
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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	23.93
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 condensable 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		207.2	247.6	40.4		
PM ₁₀		207.2	247.6	40.4	40.4	247.6
PM _{2.5}			0	0		
SO ₂		7.1	7.5	0.4	0.4	7.5
VOC		186.8	211.5	24.7	24.7	211.5
CO		104.8	104.4	-0.4		
NO _x		105.4	82.4	-23	-23	82.4
Lead	<input type="checkbox"/>	6.73	7.66	0.93		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Acetaldehyde	<input type="checkbox"/>	0.1		-0.1		
Acrolein	<input type="checkbox"/>	0.1		-0.1		
Benzene	<input type="checkbox"/>	0.2		-0.2		
1,2-Butylene Oxide	<input type="checkbox"/>	1.97		-1.97		
1,3 Butadiene	<input type="checkbox"/>	0.1		-0.1		
Cadmium	<input type="checkbox"/>	0.08		-0.08		
Chlorine	<input checked="" type="checkbox"/>	7.83	12.2	4.37	4.37	12.2
Chromium	<input type="checkbox"/>	0.16		-0.16		
Cumene	<input type="checkbox"/>	1.68		-1.68		
Diethylene Glycol Monobutyl Ether Acetate	<input type="checkbox"/>	1.86		-1.86		
Diethylene Glycol Monoethyl Ether Acetate	<input type="checkbox"/>	3.61		-3.61		
Ethyl Acrylate	<input type="checkbox"/>	4.83		-4.83		
Ethyl Benzene	<input type="checkbox"/>	10.49		-10.49		
Formaldehyde	<input type="checkbox"/>	0.54		-0.54		
Hexane	<input type="checkbox"/>			0		
Hydrogen Chloride	<input checked="" type="checkbox"/>	145.4	145.3	-0.1	-0.1	145.3
Hydrogen Fluoride	<input checked="" type="checkbox"/>	0.8	0.8	0	-1.11E-16	0.8
Methanol	<input type="checkbox"/>	20	19.91	-0.09		
Methylene Chloride	<input checked="" type="checkbox"/>	28.77	6.85	-21.92	-21.92	6.85
Methyl Isobutyl Ketone	<input type="checkbox"/>	36.1	39.56	3.46		
Napthalene	<input type="checkbox"/>			0		
Phenol	<input type="checkbox"/>	3.58		-3.58		
Tetrachloroethylene	<input type="checkbox"/>	3.3		-3.3		
Toluene	<input type="checkbox"/>	42.7	46.47	3.77		
1,1,1-Trichloroethane	<input checked="" type="checkbox"/>	45.7	44.66	-1.04	-1.04	44.66
Trichloroethylene	<input type="checkbox"/>	8.52		-8.52		
Xylene	<input type="checkbox"/>	41.94	41.46	-0.48		
HAPs	<input type="checkbox"/>	1.01	15.16	14.15		

