

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0617-AOP-R9 AFIN: 07-00035

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Aerojet - General Corporation
East Walton Road, Highland Industrial Park
East Camden, Arkansas 71701

3. PERMIT WRITER:

Shawn Hutchings

4. PROCESS DESCRIPTION AND NAICS CODE:

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

5. SUBMITTALS:

5/26/2009

6. REVIEWER'S NOTES:

In this modification Aerojet is replacing two 2.0 MMBTU/hr boilers at the M-8 building with a single 4.19 mmBTU/hr boiler. The boilers are all part of a grouped source SN-02. Aerojet is also adding a propane-fired emergency generator, SN-86, and adding a drying oven to the insignificant activities list.

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 no known enforcement actions against the facility.

8. PSD APPLICABILITY:

- a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
- b. Is the facility categorized as a major source for PSD? N
Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
86	HAPs	MACT ZZZZ
	VOC	
	CO	NSPS JJJJ
	NO _x	

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Non-Criteria Pollutants:

HAP emission limits did not change in this permit. The following is the HAP emission rate evaluation from the SOB of the previous permit.

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/m³), 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?
Acetone	1,187.0	131	241.43	NO

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acetaldehyde	45.0	4.95	0.24	Yes
Acrolein	0.23	0.03	0.03	Yes
Benzene	1.60	0.18	0.28	NO
1,3 Butadiene	4.43	0.49	0.33	Yes
Cadmium	0.002	0.00022	1.48	NO
Chlorine	1.45	0.1595	178.32	NO
Chromium Comp	0.50	0.055	12.55	NO
Chromium Hexavalent	0.01	0.0011	0.13	NO
Diethylene Glycol Monobutyl Ether Acetate	97.0	10.67	7.10	Yes
Diethylene Glycol Monoethyl Ether Acetate	97.0	10.67	14.20	NO
Ethyl Acrylate	20.5	2.26	16.80	NO
Ethyl Benzene	434.0	47.74	35.58	Yes
Formaldehyde	1.5	0.17	0.74	NO
Hydrogen Chloride	2.98	0.3278	7531.42	NO
Hydrogen Fluoride	2.46	0.2706	28.20	NO
Methanol	262.0	28.82	46.85	NO
Methylene Chloride	174.0	19.14	384.52	NO
Methyl Isobutyl Ketone	205.0	22.55	140.48	NO
PAH	0.2	0.022	0.01	Yes
Phenol	19.2	2.11	16.45	NO
Propylene	4.75	0.53	0.78	NO
Tetrachloroethylene	170.0	18.70	10.38	Yes
Toluene	188.0	20.68	157.98	NO
1,1,1 Trichloroethane	1,910.0	210.10	166.15	Yes

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Trichloroethylene	269.0	29.59	27.60	Yes
Xylene	434.0	47.74	143.72	NO

2nd Tier Screening (PAIL)

ISTST3 or OBOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Acetone	11,870.0	866.0	Yes
Benzene	16.0	5.6	Yes
Cadmium***	0.02	0.0053	Yes
Chlorine***	14.50	0.6304	Yes
Chromium Comp***	5.00	0.0434	Yes
Chromium Hexavalent	0.1	0.095	Yes
Diethylene Glycol Monoethyl Ether Acetate	970.0	146.0	Yes
Ethyl Acrylate	205.0	51.0	Yes
Formaldehyde	15.0	7.20	Yes
Hydrogen Chloride***	29.80	26.6497	Yes
Hydrogen Fluoride***	24.60	0.0771	Yes
Methanol	2,620.0	189.0	Yes
Methylene Chloride	1,740.0	1,018.0	Yes
Methyl Isobutyl Ketone	2,050.0	567.0	Yes

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Phenol	192.0	168.0	Yes
Propylene	47.5	15.50	Yes
Toluene	1,880.0	704.0	Yes
Xylene	4,340.0	671.0	Yes

*** These pollutants were modeled using the OB/OD model for extreme short term emissions.

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
02	AP-42	Varied	None	N/A	
86	AP-42	Varied	None	N/A	

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
This permit requires no additional testing				

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
This permit required no additional monitoring or CEMs				

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
86	Hours of operation	500	Monthly	Y

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
86	5%	Department guidance	Natural gas or propane combustion only
02	5%	Department Guidance	Natural gas combustion only

17. DELETED CONDITIONS:

Former SC	Justification for removal
No conditions were removed	

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Generator @ M-142	A-1	0.01	0.0003	0.02	1.47	0.88		
Oven @ M-2	A-1	0.09	0.0053	0.09	0.75	0.88		
Total	A-1	0.1	0.0056	0.11	2.22	1.76		
There were no changes to the other categories and they were not reviewed in this permit.								

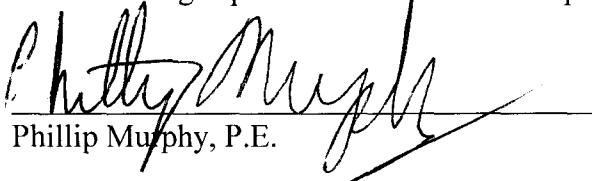
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0617-AOP-R8

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.


Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 07-27-09

Aerojet- General Corporation
 Permit No.: 0617-AOP-R9
 AFIN: 07-00035

\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	797.5
Permit Type	Minor Mod	Permit Fee \$	500

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-8.89913E-15
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	<input checked="" type="checkbox"/>	241.6	241.6	0	0	241.6
PM ₁₀	<input type="checkbox"/>	241.6	241.6	0		
SO ₂	<input checked="" type="checkbox"/>	3.4	3.3	-0.1	-0.1	3.3
VOC	<input checked="" type="checkbox"/>	153.8	153.9	0.1	0.1	153.9
CO	<input type="checkbox"/>	77.2	77.2	0		
NO _x	<input checked="" type="checkbox"/>	73.3	73.3	0	0	73.3
Lead	<input type="checkbox"/>	5.61	5.61	0		
Acetaldehyde*	<input type="checkbox"/>	1.06	1.06	0		
Acrolein*	<input type="checkbox"/>	0.14	0.14	0		
Benzene*	<input type="checkbox"/>	1.23	1.23	0		
1,2 Butylene Oxide*	<input type="checkbox"/>	0.36	0.36	0		
1,3 Butadiene*	<input type="checkbox"/>	0.09	0.09	0		
Cadmium	<input type="checkbox"/>	0.08	0.08	0		
Chlorine	<input checked="" type="checkbox"/>	6.35	6.35	0	0	6.35
Chromium, Trivalent	<input type="checkbox"/>	0.5	0.39	-0.11		
Chromium, Hexavalent	<input type="checkbox"/>	0.01	0.01	0		
Diethylene Glycol Monobutyl Ether Acetate*	<input type="checkbox"/>	1.42	1.42	0		
Diethylene Glycol Monoethyl Ether Acetate*	<input type="checkbox"/>	2.84	2.84	0		
Ethyl Acrylate*	<input type="checkbox"/>	4.48	4.48	0		

