

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1865-AOP-R1

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

BAE Systems
Highland Industrial Park, Bldg. M-25
East Camden, Arkansas 71701

3. PERMIT WRITER:

David Triplett

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Explosives Production
SIC Code: 2892

5. SUBMITTALS: August 16, 2001

6. REVIEWER'S NOTES:

BAE Systems , located at Building 25 in the Highland Industrial Park, East Camden, Ouachita County, manufactures magnesium/Teflon flares. This will be the initial modification to the operating air permit for this facility. This modification is being issued in order to allow for increased hexane usage at the facility as well as including acetone emissions which were omitted from the previous permit. This modification will also update the permit to include a separate facility within the same industrial park which is also operated by BAE for the purpose of research and development, and for the disposal of undesirable flare material by burning in open pits. This separate facility was previously permitted in minor source air permit No. 750-AR-1.

The CSN for the Title V permit will change with this modification to that of the R-1/R-15 facility. The original Title V permit was assigned a CSN of 52-0298, which was for the incorrect county. The highland industrial park is located in Calhoun County rather than Ouachita County. The CSN which was assigned to the R-1/R-15 area was correct for Calhoun County, so this CSN was retained for use in the combined Title V permit for both facilities.

7. COMPLIANCE STATUS: The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues

The facility is currently under a CAO from the Department for several violations including unpermitted acetone emissions, violation of permitted Hexane emission rates, and unpermitted testing tunnels. These issues have been addressed with this permit modification.

8. APPLICABLE REGULATIONS:

NSPS (Y/N) N If yes, subpart _____
 NESHAP (Y/N) N If yes, subpart _____
 PSD applicability (Y/N) N
 Is facility on 28 list (100 tpy)? (Y/N) N
 Was netting performed to avoid PSD review (Y/N) N

Subject to 112 (g) requirements (Y/N) N
 Subject to CAM requirements (Y/N) N
 Other applicable regulations

9. EMISSION CHANGES:

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1865-AOP-R0	Air Permit 1865-AOP-R1	Change
PM/PM ₁₀	0	85.6	85.6
SO ₂	0	0	0
VOC	80.0	225.0	145
CO	0	1.7	1.7
NO _x	0	5.7	5.7
Hexane	80.0	225.0	145

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Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1865-AOP-R0	Air Permit 1865-AOP-R1	Change
Hydrogen Fluoride	0	2.59	2.59
Fluorine	0	0.05	0.05

10. MODELING:

A. Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	579.6*	50	Annual	9.6	19%
		150	24-hour	51.58	34%
VOC	112.5	0.12	1-hour (ppm)	0.008	7%

* 570.0 lb/hr of this total is emitted in a 1-hour span once per day from SN-03, with zero emissions from this source the remaining 23 hours of the day. This was taken into account in the modeling.

11. 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 PAER was deemed by the Department 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). The modeling for hexane was based on the conservative assumption of 100% n-hexane.

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Hexane	176.25	19.3875	104	No
Hydrogen Fluoride	2.45	0.27	17.56	No

Pollutant	TLV (mg/m³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Fluorine	1.554	0.17	0.40	No
Acetone	1187.12	130.59	163.0	No

2nd Tier Screening (PAIL)

ISCST3 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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m³)	Pass?
Hexane	1762.5	1016	Yes
Hydrogen Fluoride	24.55	16.63	Yes
Fluorine	15.54	0.004	Yes
Acetone	11871.2	1472.1	Yes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
01	Mass Balance	N/A	None		Uncontrolled solvent emissions. Assumes that 100% of hexane/acetone used at the facility is emitted to the atmosphere
02	Mass Balance	N/A	None		Facility performed mass balance calculation to determine component emissions per lb of flare material burned
03	Mass Balance	N/A	None		Facility performed mass balance calculation to determine component emissions per lb of flare material burned

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

There are no testing requirements for this permit.

14. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

There are no monitoring requirements for this permit.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be

included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
01	Hexane Purchased	225.0 tpy	Monthly	Y
01	Acetone Purchased	326.25 tpy	Monthly	Y
02	Amount of Ordinance tested	20,000 lb/year	Monthly	Y
03	Amount of Waste Burned	500 lb/day	Daily	Y
03	Amount of Waste Burned	130,000 lb/year	Monthly	Y

16. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
02	No Limit	Waiver from Opacity limits of Reg 19 granted by July 17, 2002 letter from ADEQ Director	N/A
03	No Limit		N/A

17. DELETED CONDITIONS:

The following Specific Conditions were included in the previous permit, but deleted for the current permitting action.

Former Plantwide Conditions #7-9 were removed and the requirements of those conditions were incorporated into Specific Conditions #1-3.

18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

List all active permits for this facility which are voided/superseded/subsumed by issuance of this permit.

Permit #
1865-AOP-R0
750-AR-1

19. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Lyndon Poole, P.E.