

## STATEMENT OF BASIS

for the issuance of Draft Air Permit # 1865-AOP-R2

**1. PERMITTING AUTHORITY:**

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

**2. APPLICANT:**

Armtec Countermeasures Arkansas Operations  
Highland Industrial Park, Building M-25  
East Camden, Arkansas 71701

**3. PERMIT WRITER:** Kimberly O'Guinn

**4. PROCESS DESCRIPTION AND NAICS CODE:**

NAICS Description: Explosive Manufacturing  
NAICS Code: 325998

**5. SUBMITTALS:** July 19, 2004, September 14, 2004 and May 16, 2005

**6. REVIEWER'S NOTES:**

Armtec Countermeasures Company (Armtec) is located at Building 25 in the Highland Industrial Park, East Camden, Calhoun County, Arkansas. Armtec manufactures and tests explosive ordnance and disposes of explosive/pyrotechnic wastes in open thermal treatment units. There are two separate facilities covered under this permit. The two facilities are referred to as the Main Plant and the R-1/R-15 Area. This permitting action serves as a renewal of the current Title V permit. Additionally the facility will increase the amount of ordnance tested from 20,000 lbs/year to 40,000 lbs/year. Boilers and process heaters that were previously listed as insignificant sources along with a new 2.1 MMBTU/hr boiler will be listed as a new source, SN-04. The Insignificant Activities List will be updated to include the following:

- One 2.1 MMBTU/hr Hot Water Boiler.
- One 0.84 MMBTU/hr Boiler.
- The usage of primer, Ink, ink thinner and sealant.
- The usage of acetone for cleaning purposes.

Lastly, SN-02 hourly emissions will be increased due to updated emission factors. Permitted emissions will increase by 12.0 tons/year (tpy) of PM/PM<sub>10</sub>, 0.1 tpy of SO<sub>2</sub>, 0.4 tpy of VOC, 5.1 tpy of CO, 8.4 tpy of NO<sub>x</sub>, 0.34tpy of HF, 0.01 tpy of F, and 20.25 tpy of Acetone.

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The facility is subject to 40 CFR 63, Subpart DDDDD, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, and 40 CFR 63, Subpart FFFF- *Miscellaneous Organic Chemical Production and Manufacturing*. The facility shall comply with all applicable requirements.

**7. COMPLIANCE STATUS:**

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

There are no current or pending enforcement actions for this facility at this time.

**8. APPLICABLE REGULATIONS:**

**PSD Applicability**

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera)	Y/N	N
Has this facility undergone PSD review in the past?	Y/N	N
Is this facility categorized as a major source for PSD?	Y/N	N
≥ 100 tpy and on the list of 28 (100 tpy)?	Y/N	N
≥ 250 tpy all other	Y/N	N

**PSD Netting**

Was netting performed to avoid PSD review in this permit?	Y/N	N
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If so, indicate increases and decreases used in netting for PSD purposes only.

**Source and Pollutant Specific Regulatory Applicability**

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD <u>only</u> ]
Facility	Hexane	NESHAP Subpart FFFF
Facility	Boilers	NESHAP Subpart DDDDD

**9. EMISSION CHANGES:**

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

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1865-AOP-R1	Air Permit 1865-AOP-R2	Change
PM/PM <sub>10</sub>	85.6	97.5	12.0
SO <sub>2</sub>	0	0.1	0.1
VOC	225.0	225.4	0.4
CO	2.0	5.4	5.1
NO <sub>x</sub>	6.6	15.0	8.4
Hexane	225.0	225.0	0
Hydrogen Fluoride	2.59	2.93	0.34
Fluorine	0.06	0.07	0.01
Acetone	326.25	346.50	20.25

**10. MODELING:**

**Criteria Pollutants**

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m <sup>3</sup> )	Averaging Time	*Highest Concentration (µg/m <sup>3</sup> )	% of NAAQS
PM <sub>10</sub> (02A & 02B)	91.2	50	Annual	12.55	25%
		150	24-hour	87.25	58%
PM <sub>10</sub> SN-O2C & SN-03	581.4	50	Annual	10.09	20%
		150	24-hour	91.86	61%

\* Background Concentrations are not included.

**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 Department deemed PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value ( $\text{mg}/\text{m}^3$ ), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV ( $\text{mg}/\text{m}^3$ )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Hexane	176.23	19.3875	112.50	No
HF	2.455	0.27	20.02	No
Acetone	1187.11	130.58	173.25	No
F	1.55	0.17	1.82	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, $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Hexane	1762.3	1185.8	Yes
HF (02A & 02B)	24.55	1.89	Yes
HF (02C & 03)	24.55	3.56	Yes
Fluorine (02A & 02B)	15.5	0.032	Yes
Fluorine (02C & 03)	12.5	3.09	Yes
Acetone	11,871.1	5,511.24	Yes

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**12. CALCULATIONS:**

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type	Control Equipment Efficiency	Comments
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
04	AP-42	(lb/10 <sup>6</sup> scf) NO <sub>x</sub> : 94 CO: 40 SO <sub>2</sub> : 0.6 PM <sub>10</sub> : 7.6 VOC: 5.5	None		-

**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 permittee must monitor the following parameters with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and the need for records 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	346.50 tpy	Monthly	Y
02	Amount of Ordinance tested	40,000 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

\* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

\*\* Indicates whether the item needs to be included in reports

**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
04	5	Department Guidance	Daily Observation

**17. DELETED CONDITIONS:**

The previous permit contained the following deleted Specific Conditions.

Former SC	Justification for removal
	None

**18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS**

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

Permit #
1865-AOP-R1

**19. CONCURRENCE BY:**

The following supervisor concurs with the permitting decision:

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David Triplett, P.E.