# STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1865-AOP-R5 AFIN: 07-00033

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

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

3. PERMIT WRITER:

   Kimberly Lindsey-O'Guinn

4. PROCESS DESCRIPTION AND NAICS CODE:

   NAICS Description: All Other Miscellaneous Chemical Product and Preparation Manufacturing

   NAICS Code: 325998

5. SUBMITTALS:

   4/22/2010

6. REVIEWER'S NOTES:
   Armtec Countermeasures Company (Armtec) is located at Building M-25 in the Highland Industrial Park, East Camden, Calhoun County, Arkansas. Armtec manufactures and tests explosive ordnance and disposes of explosive/pyrotechnic waste 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 permit modification is to construct and operate a separate upgraded blend area to the R-1 Research & Development facility to include a 10kg high shear mixer. Annual permitted emission will remain the same.

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 current or pending enforcement actions for this facility at this time.

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?*

If yes, explain why this permit modification not PSD?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

| Source | Pollutant | Regulation (NSPS, NESHAP or PSD) |
|---|---|---|
| Facility | Hexane | NESHAP Subpart FFFF |

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.

| Pollutant | Emission Rate (lb/hr) | NAAQS Standard ($\mu g/m^3$) | Averaging Time | Highest Concentration ($\mu g/m^3$) | % of NAAQS |
|---|---|---|---|---|---|
| $PM_{10}$ (02A & 02B) | 91.2 | 50 | Annual | 12.55 | 25% |
| $PM_{10}$ SN-O2C & SN-03 | 581.4 | 150 | 24-hour | 87.25 | 58% |
| | | 50 | Annual | 10.09 | 20% |
| | | 150 | 24-hour | 91.86 | 61% |

* Background Concentrations are not included.

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 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? |
|---|---|---|---|---|
| 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)

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 Department 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? |
|---|---|---|---|
| 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 |

12. CALCULATIONS:

| SN | Emission Factor Source (AP-42, testing, etc.) | Emission Factor (lb/ton, lb/hr, etc.) | Control Equipment | 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 | ($lb/10^6$ scf)<br>NOx: 94<br>CO: 40<br>$SO_2$: 0.6<br>$PM_{10}$: 7.6<br>VOC: 5.5 | None | | - |

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

| SN | Pollutants | Test Method | Test Interval | Justification |
|---|---|---|---|---|
| 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.)

| SN | Parameter or Pollutant to be Monitored | Method (CEM, Pressure Gauge, etc.) | Frequency | Report (Y/N) |
|---|---|---|---|---|
| There are no monitoring requirements for this permit. | | | | |

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) |
|---|---|---|---|---|
| 01 | Hexane Purchased | 9.50 tpy | Monthly | Y |
| 01 | Acetone Purchased | 346.50 tpy | Monthly | Y |
| 01-R1 | VOC<br>Acetone<br>n-Hexane | 3.7 tpy<br>0.20 tpy<br>0.11 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 |

16. OPACITY:

| SN | Opacity | Justification for limit | Compliance Mechanism |
|---|---|---|---|
| 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:

| Former SC | Justification for removal |
|---|---|
| | N/A |

18. GROUP A INSIGNIFICANT ACTIVITIES

| Source Name | Group A Category | Emissions (tpy) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | PM/ $PM_{10}$ | $SO_2$ | VOC | CO | $NO_x$ | HAPs | |
| | | | | | | | Single | Total |
| 3 – 0.840 MMBtu/hr Water Heater | 1 | | | | | | | |
| 3 - 0.305 MMBtu/hr Hot Water Heater | 1 | | | | | | | |
| 0.210 MMBtu/hr Water Heater | 1 | | | | | | | |
| 4- 0.270 MMBtu/hr Water Heater | 1 | | | | | | | |
| 1 – 2.1 MMBTu/hr Hot Water Heater | 1 | | | | | | | |
| Misc. Coatings, Adhesives, and Inks Usage | 13 | | | | | | | |
| R-1 Area Research and Development Facility | 13 | | | | | | | |
| Acetone for Cleaning Purposes | 13 | | | | | | | |

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

| Permit # |
|---|
| 1865-AOP-R4 |

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Karen Cerney, P.E.

# APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

# Fee Calculation for Major Source

Revised 03-01-10

Armtec Countermeasures Arkansas Operations
Permit Number:
AFIN:

| | | | |
|---|---|---|---|
| $/ton factor | 22.07 | Annual Chargeable Emissions (tpy) | 687.5 |
| 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 or Minor Source General Permit | ☐ |
| If Hold Active Permit, Amt of Last Annual Air Permit Invoice $ | 0 |
| Total Permit Fee Chargeable Emissions (tpy) | 0 |
| 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 | ☑ | 97.5 | 97.5 | 0 | 0 | 97.5 |
| $PM_{10}$ | ☐ | 97.5 | 97.5 | 0 | | |
| $SO_2$ | ☑ | 0.1 | 0.1 | 0 | 0 | 0.1 |
| VOC | ☑ | 225.4 | 225.4 | 0 | 0 | 225.4 |
| CO | ☐ | 5.4 | 5.4 | 0 | | |
| $NO_X$ | ☑ | 15 | 15 | 0 | 0 | 15 |
| n-Hexane | ☐ | 9.5 | 9.5 | 0 | | |
| Acetone | ☑ | 346.5 | 346.5 | 0 | 0 | 346.5 |
| HF | ☑ | 2.93 | 2.93 | 0 | 0 | 2.93 |
| F | ☑ | 0.07 | 0.07 | 0 | 0 | 0.07 |