DEPARTMENT OF DEFENSE
JUSTIFICATION OF BUDGET ESTIMATES FOR FY 1988/1989
CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

APPROPRIATION LANGUAGE

For expenses, not otherwise provided for, necessary for the destruction of the United States stockpile of lethal chemical agents and munitions in accordance with the provisions of section 1412 of the Department of Defense Authorization Act, 1986; [118,700,000] $87,400,000, of which [59,900,000] $83,900,000 shall remain available for obligation until September 30, 1987; [1988], [$9,600,000] $3,500,000 shall remain available for obligation until September 30, 1988; [1989], [and $49,200,000 shall remain available for obligation until September 30, 1989].

Further, for the foregoing purposes, $211,900,000, of which $88,200,000 shall remain available for obligation until September 30, 1989, $700,000 shall remain available for obligation until September 30, 1990, and $123,000,000 shall remain available until September 30, 1991. (Department of Defense Appropriations Act, 1987, as included in Public Laws 99-500 and 99-591, section 101(c); additional authorizing legislation to be proposed).
Chem Agents and Munitions Destruction, Do
Program and Financing (in thousands of dollars) SUMMARY

05 Jan 87

<table>
<thead>
<tr>
<th>Identification Code</th>
<th>WP-D352-U-1-051</th>
</tr>
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</table>

Program by activities:
Direct program:
00 0101 Chem Agents & Munitions Destruction - DOE
03 0101 Chem Agents & Munitions Destruction - Proc
08 0101 Chem Agents & Munitions Destruction - O&M
Total

<table>
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<td>Budget Plan (amounts for PROCUREMENT actions programmed)</td>
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Obligations

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Financing:
Unobligated balance available, start of year:
24 4002 For completion of prior year budget plan
24 4002 Unobligated balance available, end of year:
24 4002 For completion of prior year budget plan
40 0001 Budget Authority (appropriation)

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Page 2
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<tr>
<th>Identification Code</th>
<th>9F-0200-01-051</th>
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<tr>
<td>Progrm by Activities</td>
<td>Direct program</td>
</tr>
<tr>
<td>00 0200</td>
<td>Chem Agents &amp; Munitions Destrct-RC1&amp;I</td>
</tr>
<tr>
<td>00 0201</td>
<td>Chem Agents &amp; Munitions Destrct-Proc</td>
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<tr>
<td>00 0230</td>
<td>Chem Agents &amp; Munitions Destrct-OGM</td>
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<td>00 0200 Total</td>
<td>118,700</td>
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<td>Obligations</td>
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<td>9,800</td>
<td>8,300</td>
<td>1,300</td>
<td>2,803</td>
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<td>59,700</td>
<td>38,860</td>
<td>7,600</td>
<td>2,483</td>
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<td>59,500</td>
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<td>118,700</td>
<td>107,860</td>
<td>8,300</td>
<td>2,483</td>
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Financing:

Unobligated balance available, start of year:

21 4002 For completion of prior year budget plans

Unobligated balance available, end of year:

24 4002 For completion of prior year budget plans

Budget authority (appropriation):

118,700
Chem Agents and Munitions Destruction, Do  
Program and Financing (in thousands of dollars) FISCAL YEAR 1988  
06 Jan 87

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<tr>
<th>Identification code</th>
<th>87-0340-0-1-001</th>
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<th>Program &amp; activities</th>
<th>Direct program</th>
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<td>87-0340-0-1-001 Chem Agents &amp; Munitions Destruct-DETRIC</td>
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<td>87-0340-0-1-001 Chem Agents &amp; Munitions Destruct-DoE</td>
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| Total | 87,400 | 85,176 | 1,224 |

**Financing:**

- **Unobligated balance available, start of year:**
  - 21-0002 For completion of prior year budget plans
  - 24-0002 For completion of prior year budget plans

| Unobligated balance available, end of year: | 1,224 |

<p>| Budget authority (appropriation) | 87,400 | 87,400 |</p>
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<td>Program by activities:</td>
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<td>C0.0134 Chem Agents &amp; Munitions Destr-Design</td>
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<td>C0.0135 Chem Agents &amp; Munitions Destr-Proc</td>
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<td>189,963</td>
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<td>10.0001</td>
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Financing:
- Unobligated balance available, end of year:
  - 24.A012: For completion of prior year budget plans
  - 40.0031: Budget authority (appropriation)

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<td><strong>Direct obligations:</strong></td>
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<td>111.041</td>
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<td>3,720</td>
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<td>121.041</td>
<td>Travel and transportation of persons</td>
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<td>500</td>
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<td>122.041</td>
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<td>Contracts</td>
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<tr>
<td>126.043</td>
<td>Supplies and materials</td>
<td>103,831</td>
<td>99,020</td>
<td>100,013</td>
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<td>131.001</td>
<td>Equipment</td>
<td>76</td>
<td>76</td>
<td>76</td>
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<tr>
<td><strong>Total Direct obligations</strong></td>
<td>107,668</td>
<td>94,486</td>
<td>103,579</td>
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<tr>
<td><strong>Total obligations</strong></td>
<td>107,668</td>
<td>94,486</td>
<td>103,579</td>
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Page 6
DEPARTMENT OF DEFENSE
JUSTIFICATION OF BUDGET ESTIMATES FOR FY 1988 AND 1989
CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

APPROPRIATION JUSTIFICATION

(In Thousands of Dollars)
Program Requirement-FY1989 - $211,900
Program Requirement-FY1988 - $87,400

PART I - Purpose and Scope

The chemical demilitarization program is based on Section 1412 of the 1986 Defense Authorization Act (Public Law 99-145) that directs the Department to destroy the complete unitary chemical stockpile by September 1994 in conjunction with production of binary chemical weapons. This separate appropriation was mandated by Public Law 99-145, "Funds for carrying out this section should be set forth in the budget of the Department of Defense for any fiscal year as a separate account. Such funds shall not be included in the budget accounts for any military department. Funds for military construction projects necessary to carry out this section may be set out in the annual military construction budget separately from other funds for such project." This chemical demilitarization appropriation contains operation and maintenance, procurement, and research and development funds included in separate budget activities. The military construction funds are included in the Army military construction appropriation.

PART II - Justification of Funds Required

The chemical demilitarization program provides all resources, except construction funds, to support the chemical demilitarization program. The resources will be used to develop and test disposal and monitoring processes; procure, test and install equipment for the disposal facilities; operate and maintain the disposal facilities; provide safe and secure transportation of chemical munitions and agents to disposal facilities; dispose of all waste products; and decontaminate and dismantle all disposal equipment at the conclusion of disposal operations. Chemical agents and munitions are stored within the continental United States, Johnston Atoll, and the Federal Republic of Germany. Funds for this activity will be used ultimately to destroy all of the unitary chemical stockpile. For FY 1988 and 1989, the following projects will continue: development of improved monitoring systems; prototype testing and incineration; data gathering at the Chemical Agent Munitions Disposal System (CAMDS); operation of the Drill and Transfer System (DATS); disposal of BZ (incapacitant agent) at Pine Bluff Arsenal, Arkansas; installation and testing of disposal equipment for the Johnston Atoll Chemical Agent Disposal System (JACADS); preoperational checks and operational toxic proveout of JACADS; and management of the program.

These FY 1988 and 1989 budget estimates are based on the assumption that the disposal facilities funds will be provided by the Congress as a result of the DoD FY 1987 Supplements Budget Request. The construction costs would be included in the Army's Military Construction Program and the equipment funds would be included in Budget Activity 2 of this appropriation.
PART III - PROGRAM DESCRIPTION AND MILESTONE CHART

The chemical destruction program is complying with the requirements of the National Environmental Policy Act (NEPA) in determining the locations to construct disposal facilities. The Army has solicited and received assistance from such federal agencies as Department of Health and Human Services, Environmental Protection Agency, Department of Transportation, Federal Emergency Management Agency and the Council on Environmental Quality. The Army is completing a Programmatic Environmental Impact Statement (EIS) that will culminate in a Record of Decision (ROD) on the siting of the disposal facilities. Until that decision is made, the actual numbers of disposal facilities cannot be determined. Costs of construction and equipment are estimated assuming that the maximum number of disposal facilities will be constructed. The following are the major milestones for this program:

- Record of Decision - Programmatic EIS: 1st Quarter 1988
- Record of Decision - Site Specific EIS: 3rd Quarter 1988
- Site Adapted Final Design: May 1988
- Issue Final RCRA Permits: May 1988
- Construction Contract Awards: September 1988
- Start Training Facility Operations: October 1990
- Start Toxic Operations: October 1991
- Complete All Disposal Operations: September 1994
- Decontaminate and Dismantle Facilities: September 1995
DEPARTMENT OF DEFENSE
JUSTIFICATION OF BUDGET ESTIMATES FOR FY 1988 AND 1989
CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

BUDGET ACTIVITY 1: RESEARCH AND DEVELOPMENT
(In Thousands of Dollars)
Program Requirement-FY1989 - $ 700
Program Requirement-FY1988 - $3,500
Program Requirement-FY1987 - $9,600

PART I - Purpose and Scope

This budget activity provides the resources for advanced technology development for more efficient and cost effective means to demilitarize the current unitary chemical warfare stockpile safely. This budget activity funding was transferred from the Research, Development, Test and Evaluation, Army (RDTE,A) appropriation pursuant to Section 1412 of the 1986 Defense Authorization Act (Public Law 99-145) that requires a separate DoD account for chemical demilitarization.

PART II - Justification of Funds Required

This budget activity provides the resources for developing improved processes for demilitarizing chemical munitions including cryofracture of chemical munitions, circulating bed combuster furnace to destroy bulk agents, increased use of robotics to reduce manpower requirements, and development of improved monitoring equipment. These operations are programmed to enhance the development of a more efficient process to destroy the unitary chemical stockpile by 1994 as directed by Public Law 99-145 and provide better process control.

PART III - Financial Summary

In FY 1987, $9.6 million is budgeted for these RDTR efforts. The $6.1 million decrease in FY 1988 is due to the termination of testing for the cryofracture process. If the 1994 Congressional deadline remains, cryofracture development will stop and all efforts will focus on the JACADS destruction process. The requirement to develop more sensitive agent monitor remain. The FY 1988 and 1989 funds support the following effort.

<table>
<thead>
<tr>
<th>Integrated cryofracture design, testing and non-toxic proveout</th>
<th>FY86</th>
<th>FY87</th>
<th>FY88</th>
<th>FY89</th>
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<tbody>
<tr>
<td>System analysis</td>
<td>122</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Monitor development</td>
<td>1,070</td>
<td>1,408</td>
<td>660</td>
<td>630</td>
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<td>Program management</td>
<td>469</td>
<td>413</td>
<td>140</td>
<td>070</td>
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<td><strong>Total</strong></td>
<td>8,905</td>
<td>9,600</td>
<td>3,500</td>
<td>700</td>
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*Budgeted in Research, Development, Test and Evaluation, Army appropriation
FY 1988 AND 1989 RDT&E CONGRESSIONAL DESCRIPTIVE SUMMARY

Budget Activity 1: Research and Development

DoD Mission Area: #552 - Environment and Life Sciences (ATD)

A. (U) RESOURCES (Project Listing): ($ in Thousands)

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Title</th>
<th>FY 1986a</th>
<th>FY 1987</th>
<th>FY 1988</th>
<th>FY 1989</th>
<th>Additional to Completion</th>
<th>Estimated Cost</th>
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<tr>
<td>XXXX</td>
<td>Demilitarization Advanced Technology</td>
<td>8,905</td>
<td>9,600</td>
<td>3,500</td>
<td>700</td>
<td>0</td>
<td>57,255</td>
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</tbody>
</table>

B. (U) BRIEF DESCRIPTION: This program element supports the need to provide advanced technology development of an efficient and cost effective means to safely demilitarize the current unitary chemical warfare stockpile. Toxic munitions which are obsolete, leaking, or identified for destruction pose a potential hazard to the public and the environment. Improvements and new developments are required to provide a system that is feasible, energy-efficient, cost effective, and environmentally acceptable in order to support disposal of the complete unitary chemical stockpile by 1994 in conjunction with production of binary chemical weapons as mandated by Public Law 93-145.

C. (U) COMPARISON WITH FY 1987 DESCRIPTIVE SUMMARY: ($ in Thousands)

<table>
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<tr>
<th>FY 1986a</th>
<th>FY 1987</th>
<th>FY 1988</th>
<th>Additional to Completion</th>
<th>Estimated Cost</th>
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<tr>
<td>RDT&amp;E</td>
<td>Funda (current requirements)</td>
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<td>9,600</td>
<td>3,500</td>
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<tr>
<td></td>
<td>Funds (as shown in FY 1987 submission)</td>
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<td>9,800</td>
<td>11,500</td>
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<tr>
<td></td>
<td>Difference FY 1988 &amp; FY 1987 Descriptive (645)</td>
<td>(200)</td>
<td>(8,000)</td>
<td>(7,000)</td>
</tr>
</tbody>
</table>

The difference between the FY 1988 and 1987 submissions is due to the programmed termination of the funding for the cryofracture technology after 1st Quarter, FY 1988.

* Budgeted in Research, Development, Test and Evaluation, Army appropriation
FY 1988 AND 1989 HRTF CONGRESSIONAL DESCRIPTIVE SUMMARY

Budget Activity 1: Research and Development

Title: Demilitarization Technology

DoD Mission Area: 552 - Environment and Life Sciences (ATD)

D. (U) OTHER APPROPRIATION FUNDS: ($ in Thousands) MCA Temp TO9300. Cryofracture Chemical Demil Facility to be constructed at Tooele Army Depot in FY 1988 if cryofracture is the technology selected for demilitarization of the chemical stockpile and relief is granted for the 1994 completion date. The $21 million construction and $4 million equipment costs are not programmed.

E. (U) RELATED ACTIVITIES: Currently there are no related projects. No unnecessary duplication of effort will occur within the Department of Defense or Army. Open interchange of ideas with the Environmental Protection Agency and other non-Defense agencies avoids duplication in hazardous materials destruction. Large-scale destruction of toxic chemical agents and munitions is solely the responsibility of the Department of Defense. The U.S. Army will be responsible for the execution of the program as outlined by Department of Defense.

F. (U) WORKED PERFORMED BY: In-house work is performed by the Program Manager for Chemical Munitions, Aberdeen Proving Ground, Maryland. Approximately 95 percent of the research and development effort is performed under contract. Principal performer include: GA Technologies, San Diego, California; Bechtel National, San Francisco, California; Midland Roads, Toledo, Ohio; and Southern Research Institutes, Birmingham, Alabama.

G. (U) PROJECTS LESS THAN $10 MILLION IN FY 1988 AND 1989: This project supports the advanced development of improved methodologies for the detection and quantification of chemical agent vapors (GB, HD, and VX) in demilitarization facilities. A variety of sample matrices, including workplace, stack and incinerator, flue gases will be continuously monitored for the presence of agent vapor in the parts-per-trillion range. Due to the high toxicity of these compounds, real-time responses are required and the detection must be highly specific to avoid an unacceptable false alarm rate. Instrument reliability and maintainability are also considered important factors.

In FY 1986, prototype cryofracture equipment had been tested with simulants munitions at production rates to determine reliability, availability and maintainability (RAM) and effective throughput. Chemical agent GB munitions tests are in progress using the cryofracture process at CAMDS in Tooele Army Depot, Utah. The demonstration module design and associated environmental documents will be developed in FY 1987. The acquisition plan for the demonstration module equipment has been prepared. During FY 1987, the demonstration module design will be completed and extended equipment availability testing will be conducted. Real agent testing will continue using CAMDS for agents VX and H. The cryofracture program will continue after 1st Quarter, FY 1988 only if relief is granted on the 1994 completion date for disposal of the unitary stockpile. Otherwise, this effort will be terminated and JACADS technology will be utilized for CONUS disposal operations. Efforts will continue in FY 1988 and FY 1989 in chemical agent monitoring to develop improved work area and stack monitors.

H. (U) PROJECTS OVER $10 MILLION IN FY 1986 AND 1989: Not applicable.

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DEPARTMENT OF DEFENSE
JUSTIFICATION OF BUDGET ESTIMATES FOR FY 1988 AND 1989
CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

BUDGET ACTIVITY 2: PROCUREMENT

(In Thousands of Dollars)
Program Requirement-FY1989 - $123,000
Program Requirement-FY1988 - $0
Program Requirement-FY1987 - $49,200

PART I - Purpose and Scope

This budget activity provides for the purchase and installation of equipment (facilitization) for disposal facilities to be used for destroying the unitary chemical agent stockpile by 1994.

PART II - Justification of Funds Requested

This budget activity provides funds for equipment acquisition for the stockpile disposal facilities. In order to meet the Congressionally mandated 1994 deadline, construction of the required facilities must commence in FY 1988. In order to meet the construction schedule, the procurement funds for the pacing equipment must be available in FY 1987. Many pieces of equipment are long lead time items that must be ordered before facility construction. Therefore, a supplemental to the FY 1987 budget contains a request for the military construction, Army and procurement funding. If the supplemental is approved, no procurement funds will be required in this budget activity for FY 1988.

The alternatives being assessed are: disposal at one site, disposal at regional sites, and disposal on site at all eight storage sites. There is a possibility that up to nine disposal facilities may be built at eight storage locations—Aberdeen Proving Ground, Maryland; Anniston Army Depot, Alabama; Lexington-Blue Grass Army Depot, Kentucky; Newport Army Ammunition Plant, Indiana; Pine Bluff Arsenal, Arkansas; Public Army Depot Activity, Colorado; Tooele Army Depot, Utah; and Huatilla Army Depot Activity, Oregon. The decision is scheduled for 1st Quarter FY 1988. Section 1412 of the 1986 Defense Authorization Act requires the Department to destroy the complete unitary chemical stockpile by September 1994.
DEPARTMENT OF DEFENSE
JUSTIFICATION OF BUDGET ESTIMATES FOR FY 1988 AND 1989
CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

BUDGET ACTIVITY 2: PROCUREMENT

PART III - Financial Summary

The FY 1986, 1987 and 1989 funding are shown below. Procurement funding for FY 1988 is not required if the 1987 Supplemental is approved.

<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>BZ (incapacitant agent) Disposal Facility</td>
<td>15,800</td>
<td>300</td>
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</tr>
<tr>
<td>Chemical Agent Munitions Disposal System</td>
<td>7,100</td>
<td>3,237</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Johnston Atoll Chemical Agent Disposal System</td>
<td>54,400</td>
<td>35,663</td>
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</tr>
<tr>
<td>Stockpile Disposal Facility</td>
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<td>10,000</td>
<td>0</td>
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</tr>
<tr>
<td></td>
<td>77,300</td>
<td>49,200</td>
<td>0</td>
<td>123,000</td>
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* Budgeted in Procurement of Ammunition, Army appropriation

Page 13
### BUDGET ITEM JUSTIFICATION SHEET

**DATE**
January 1987

<table>
<thead>
<tr>
<th>Appropriation/Budget Activity</th>
<th>Procurement Budget Activity 1</th>
<th>P-1 ITEM NOMENCLATURE Chemical Demilitarization Process Equipment</th>
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<td>FY (FY)</td>
<td>FY (CY) 87</td>
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<td>QUANTITY</td>
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<td>COST (in Millions)</td>
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The FY 1989 funds provide for completion of equipment acquisition, initiation of equipment installation and contractor management for stockpile disposal facilities. These plants, when fully operational, will provide the Army a capability to dispose of all unitary chemical munitions and agents in large industrial scale type plants. Demilitarization of the stockpile will eliminate maintenance, surveillance, and decontamination costs associated with these items. Section 1412 of the 1986 Defense Authorization Act requires Department of the Army to destroy the complete unitary chemical stockpile by September 1994. A programmatic environmental impact statement was initiated in 1986 with the Record of Decision (ROD) scheduled for first Quarter FY 1988. Alternatives being considered are: national disposal, regional disposal, and on-site disposal. The on-site disposal alternative could require construction of disposal facilities at each of the eight storage sites: Aberdeen Proving Ground, MD; Anniston Army Depot, AL; Lexington-Blue Grass Army Depot, KY; Newport Army Ammunition Plant, IN; Pine Bluff Arsenal, AR; Pueblo Army Depot Activity, CO; Tooele Army Depot, UT; and Unamilla Army Depot Activity, OR.
### PROGRAM COST BREAKDOWN

**DATE**: January 1987

<table>
<thead>
<tr>
<th>ELEMENT OF COST</th>
<th>IDENT. CODE</th>
<th>FY 1986* QTY</th>
<th>TOTAL COST</th>
<th>FY 1987 QTY</th>
<th>TOTAL COST</th>
<th>FY 1988 QTY</th>
<th>TOTAL COST</th>
<th>FY 1989 QTY</th>
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<td>3.  Johnston Atoll Chemical Agent Disposal System</td>
<td></td>
<td>54,400</td>
<td>$35,663</td>
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<td>4.  Chemical Stockpile Disposal Program</td>
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<td><strong>123,000</strong></td>
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* These funds were included in the Procurement of Ammunition, Army Appropriation

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Page 13
## PROGRAM COST BREAKDOWN

**DATE**
January 1987

<table>
<thead>
<tr>
<th>Appropriations/Budget Activity</th>
<th>Procurement</th>
<th>Budget Activity 2</th>
<th>P-1 ITEM NOMENCLATURE</th>
<th>Chemical Demilitarization Process Equipment</th>
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<tr>
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**P-1 SHOPP. LIST**
**ITEM NO.**

EXHIBIT P-22
PART I - Purpose and Scope

This budget activity provides for tests, operations, studies, management, engineer designs, and technical support for the chemical demilitarization program. In Section 1412 of the 1986 Defense Authorization Act (Public Law 99-145), Congress directed that the complete stockpile of unitary chemical agents and munitions be destroyed by 1994. This budget activity was transferred from the Operation and Maintenance, Army appropriation pursuant to Public Law 99-145.

PART II - Justification of Funds Requested

Chemical Agent Munitions Disposal System (CAMDS): Funds in the amount of $17.7 million are required in FY 1988 for the testing of prototype disposal equipment at CAMDS in Tooele Army Depot, Utah and initiate conversion of the CAMDS to a bulk disposal facility for the stockpile disposal program.

Drill and Transfer System (DATS): Funds in the amount of $0.4 million are required in FY 1988 to set up, train and operate DATS at Dugway Proving Ground, Utah. Recovered chemical munitions from previous tests will be demilitarized, then the DATS will be placed into storage at that site.

BZ (incapacitant agent) Disposal Project: The BZ disposal facility at Pine Bluff Arsenal, Arkansas will be fully tested by the end of FY 1997. Funds in the amount of $15.3 million are required in FY 1988 to conduct BZ disposal operations on a Government-Owned, Contractor-Operated (GOCO) basis.

Johnston Atoll Chemical Agent Disposal System (JACADS): Facility construction and installation of rocket equipment will be completed in early FY 1988. Also, the installation of the remaining stockpile equipment will begin in FY 1988 and continue into FY 1989. Funds in the amount of $14.7 million are required in FY 1988 for environmental and analytical studies, environmental monitoring, technical support, rocket equipment systemization and personnel training.

Stockpile Disposal Program: Public Law 99-145 requires the destruction of the unitary chemical stockpile by September 1994. The Department has initiated a programmatic environmental impact statement (PEIS) for this program. The PEIS is scheduled to be completed in the first quarter of FY 1988. This PEIS will result in a Record of Decision on the locations for the disposal of the stockpile (national site; regional sites; or on-site at eight continental United States sites). Funds in the amount of $25.4 million will be required in FY 1988 for development of training, logistics, operations and maintenance plans; engineering and technical support; development of environmental and operating permits; and acquisition of substitute/test munitions for training and plant run-in.
DEPARTMENT OF DEFENSE
JUSTIFICATION OF BUDGET ESTIMATES FOR FY 1988 AND 1989
CHEMICAL AGENTS AND MUNITIONS DESTRUCTION, DEFENSE

BUDGET ACTIVITY 3: OPERATION AND MAINTENANCE

Program Management: In FY 1988, funds in the amount of $7.1 million are required for salaries of civilian personnel responsible for overall program management and related overhead cost, e.g., reproduction, printing, travel, and general and administrative expenses.

Technical Support: Funds in the amount of $3.3 million are required in FY 1988 for contractor engineering studies, improvement in chemical monitoring and data management.

PART III - Financial Summary

In FY 1987, $59.9 million is budgeted for these operation and maintenance functions. The $24.0 million increase in FY 1988 is due to added requirements for development of environmental documents and permits, engineering and technical studies, and substitute/test munitions; and for operational cost as the BZ contractor hires the operating staff.

The FY 1988 and 1989 funds support the following effort:

<table>
<thead>
<tr>
<th></th>
<th>FY86</th>
<th>FY87</th>
<th>FY88</th>
<th>FY1989</th>
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<td>9,800</td>
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<td>59,900</td>
<td>83,900</td>
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</table>

* Budgeted in Operation and Maintenance, Army appropriation.

The increased requirement for funds in FY 1989 can be directly attributed to the Johnston Atoll Chemical Agent Disposal System (JACADS). In FY 1989 training of the operations personnel, pre-operations checkout, and toxic prove out operations will be conducted.