



MICROCOPY RESOLUTION TEST CHART
10X 25

2

AD-A165 963

DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1987

PROCUREMENT APPROPRIATIONS-CONSTRUCTION PROGRAM

SUBMITTED TO CONGRESS

FEBRUARY 1986



DTIC
ELECTE
APR 01 1986
S D
D

DD FORMS 1391

This document has been approved
for public release and sale; its
distribution is unlimited.

DTIC FILE COPY

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (in 6 parts) Department of the Army Justification of Estimates for Fiscal Year 1987, submitted to Congress February 1986, Procurement Programs, Aircraft, Missiles, Weapons & Tracked Cbt Veh., Ammunition, Other Procurement & Constr Programs		5. TYPE OF REPORT & PERIOD COVERED Army Procurement Budget Justification, FY 1987
7. AUTHOR(s) Department of the Army		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-PPP-B) Washington, DC 20310-0665		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS HQDA, Office of the Deputy Chief of Staff for Research, Development, and Acquisition (DAMA-PPP-B) Washington, DC 20310-0665		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE February 1986
		13. NUMBER OF PAGES 199 (including all parts)
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Army Procurement Programs Budget Justification Books covering Aircraft, Missiles, Weapons and Tracked Combat Vehicles, Ammunition, Other Procurement, Army Appropriations programs and Construction programs submitted by the Army to Congress February 1986 for Fiscal Year 1987.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) In justification of programs requested, this document, in separate volume for each of the five Procurement Appropriations, and one separate volume for Construction Programs, provides backup data for the Army Budget submission for FY 1987. Included are Summaries of Requirements, Program and Financing Statements and Selected Data Sheets. (These volumes are unclassified).		

DEPARTMENT OF THE ARMY
JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1987
SUMMARY

P-1 Line No: 37

Appropriation: Procurement of Aircraft, Army

Activity 4 - Support Equipment and Facilities

<u>Installation</u>	<u>Project No.</u>	<u>Project Title</u>	<u>Cost Estimate (Millions)</u>	<u>Page No.</u>
Stratford Army Engine Plant Stratford, Connecticut	1887173-73/1	Construct Storage Building	3.5	2
Stratford Army Engine Plant	1878173-73/2	Expansion of Building #6	3.5	5

Accession For	
NTIS CRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	



1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA		2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant Stratford, Conn.		4. Project Title Construct Storage Building	
5. Program Element	6. Category Code 422-(A)	7. Project Number 1878173-73/1	8. Project Cost (\$000) \$3,500,000

9. Cost Estimates

Item	U/M	Quantity	Unit Cost	Cost (\$000)
A. Primary Facility				
Cov Stor/Inst	SF	72,300	\$38.00	\$2,747,400
Receiving Area	SF	3,500	\$25.00	87,500
B. Supporting Facilities				
Equipment Removal & Reinstallation	SF	9,000	\$ 4.00	36,000
Temporary Storage	SF	11,000	\$15.00	165,000
Elevator, Freight 4000 lb	LS	1		60,000
Monorail, Two Ton	LS	1		18,700
Demolition	SF	15,000	\$ 4.00	60,000
Sub Total				\$3,174,600
C. Contingency Percent (5.00%)				\$ 158,733
Total Contract Cost				\$3,333,333
D. Supervision Insp. & Overhead (5.5%)				\$ 183,333
TOTAL REQUEST				\$3,516,666

Description of Proposed Construction

The primary facility is permanent steel beam, metal siding construction. The work is new construction, site adapted from two temporary prefabricated storage buildings on the installation. The structure is a two story metal sided building with concrete floors to house seven different storage areas. In addition, the building will include a material receiving dock area, four offices, two restrooms and an elevator. The building will be minimally heated by an existing steam supply during the heating season and ventilated in the summer months. The project will include required utilities services, fire protection and alarm system, storm drainage, paving, gutters and site improvements. Demolition of three existing temporary prefabricated metal storage buildings is required for site clearance. Not sited in a flood plan. Accessibility for the handicapped will be provided. Temporary storage is required for approx. 11,000 sq. ft. for one year duration.

1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant , Stratford Conn.		
4. Project Title Construct Storage Building		5. Project Number 1878173-73/1

11. Requirements:

Construction of a covered materials storage facility with offices and restroom facilities. This project is required to provide 72,300 sq. ft. of on-site storage capabilities. Existing facilities are uneconomical and inadequate.

Project:

A permanent two story 72,300 sq. ft. metal sided materials storage building.

Current Operation:

Present day storage is in six widely scattered temporary metal buildings and costly off-site warehousing.

Impact if not Provided:

If this project is not implemented, inventory control will remain difficult, government expense for off-site storage will continue to increase and plans for Stratford Army Engine Plant's Modernization will be hindered.

Donna J. Kallnd, Chief, for
David H. Carpenter, Director
Plant Engineering & Maintenance

Estimated Construction Start: March 1987
Estimated Midpoint of Construction: September 1987
Estimated Construction Completion: September 1988

1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant , Stratford Conn.		
4. Project Title Construct Storage Building		5. Project Number 1878173-73/1

Supplemental Data

- | | |
|---|------------------------------|
| A. Estimated Annual Cost to Operate Proposed Facility | S 60,000 |
| B. Number of Additional Personnel Necessary to Carry Out the Function of the Proposed Facility | 0
(PEOPLE) |
| C. Estimated Life-Cycle Cost to Operate and Maintain the Desired Facility | 3,000,000
(S000) |
| D. Estimated Life Cycle Cost to Operate and Maintain the Existing Facility if New Facility is a Replacement | N/A
(S000) |
| E. Planning and Design Data (Estimate) | |
| 1. Status | |
| a. Date Design Started | April 1985 |
| b. Per Cent Complete as of January 1, 1985 | 0% |
| c. Per Cent Complete as of October 1, 1985 | 80% |
| d. Date Design Completed | December 1985 |
| 2. basis | |
| a. Standard or Definitive Design | Yes X No |
| b. Where Design Was Most Recently Used | Derby, Connecticut |
| 3. Cost (Total - S000) | |
| a. Production of Plans and Specs (6% Limit) | S 140,000 |
| b. All Other Design Costs | 0 |
| c. Total Cost = (a + b) = (d + e) | 140,000 |
| d. Contract | 140,000 |
| e. In House | 0 |
| 4. Construction Start Date (Planned) | March 1987
MONTH AND YEAR |
| F. Equipment Associated with this Project which will be Provided from Other Appropriations | None |

1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA		2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant Stratford, Conn.		4. Project Title Expansion of Building #6	
5. Program Element	6. Category Code 228-(A)	7. Project Number 1878173-73/2	8. Project Cost (\$000) \$3,500,000

9. Cost Estimates

Item	U/M	Quantity	Unit Cost	Cost (\$000)
A. Primary Facility				
Prod/Misc. Proc	SF	6,182	\$55	\$ 340,000
Mezzanine	SF	17,864	\$90	1,607,760
Skywalk	-	L.S.	-	300,000
B. Supporting Facilities				
Equip. Removal & Reinstallation	-	L.S.	-	200,000
Renab. Elect. Mech, HVAC	-	L.S.	-	492,234
Structural & Fuel Cont. Areas	-	L.S.	-	60,200
Air Conditioning	Ton	70	\$850	50,000
Cranes and hoists	ea	3	-	60,000
Elevator, Passenger 2000 lb.	ea	1	\$60,000	60,000
Demolition of Bldg. #5	-	L.S.	-	(-0- See Below)
Sub Total				\$3,110,204
Contingency Percent (5.00%)				155,510
Total Contract Cost				\$3,265,714
Supervision Insp. Overhead (5.5%)				179,614
Total Request				\$3,445,328

Description of Proposed Construction

The primary facility is permanent new construction consisting of 17,864 sq. ft. of steel supported concrete slab mezzanine and 6182 sq. ft. of steel and concrete building extensions. The mezzanine is at the second floor level of the existing Bldg. 6 and located on the west side. The two building extensions are adjacent to the south elevation of the existing Bldg. 6. The primary facility new construction also includes a skywalk between Bldg. #6 and Bldg. #3 to provide personnel, product and utility transfer. A concrete containment wall with sun roof protection for a small fuel storage area shall be erected south of the existing Bldg. 6. The project will include provisions for recirculated cooling water as required, approx. 70 tons of chilled water air conditioning and all required utility services. A 3 ton bridge crane, a 2 ton jib/hoist crane, a 3 ton A frame and a 1 ton passenger and goods elevator will be required. The project will also include general renovations of the existing Bldg. 6 to upgrade the existing ventilation fans, the heating and lighting system and to repair the existing concrete north entrance. Demolition of existing buildings is not required for site clearance. However, all lab functions from Bldg. #5 will be relocated into Bldg. #6, and Bldg. #5 will be retained for use as a temporary shelter until the construction of Bldgs. 3A & 7, programmed for 1988 and 1990 respectively. Accessibility for the handicapped will be provided.

1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant , Stratford Conn.		
4. Project Title Expansion of Building #6		5. Project Number 1878173-73/2

11. **REQUIREMENTS:** Construction of a 17,864 sq. ft. mezzanine at second floor level. Construction of two building extensions, totaling 6182 sq. ft. on the south side of Building #6. Construction of a skywalk between Buildings #6 and #3. General rehabilitation of Building #6

Project: This project will provide for a more efficient operation via the consolidation, and result in an energy efficient and safe working environment.

Requirements: This project is required to meet the goals of Stratford Army Engine Plant's Modernization, to consolidate all similar laboratory operations and to provide an energy efficient building.

Current Operation: Currently the operations slated to be consolidated in Building #6 are scattered in Bldg. Nos. 5, 16 & 16A.

Impact if not Provided:

Building #6 was converted from an old aircraft hanger. Its high ceiling and wide open space result in very high heating costs which will continue to escalate with no benefit gained unless the high bay area is effectively utilized by a mezzanine as proposed. Leaky piping, makeshift offices, etc., all contribute to the deterioration of equipment and inefficient operation. Building #6 renovation will improve employee morale and productivity, engender energy savings and provide protection for precision test equipment. The mezzanine provides the necessary additional space required for centralizing lab activities and additional equipment being acquired in various planned projects. The skywalk will integrate the engineering and technical services which is conducive to efficient, economical and quality services. Failure to implement the proposed project will prevent relocation of facilities presently housed in a building which, based on government evaluation, should be expeditiously demolished (Bldg. #5). Significant productivity gains to be achieved by combining similar functions presently scattered in various buildings will not be realized. Additionally, needed space to house planned projects under both Avco and Army sponsorship will not be available as required. Finally, costs to maintain presently scattered and deteriorated lab areas will continue to increase.

1. Component ARMY	FY 87 MILITARY CONSTRUCTION PROJECT DATA	2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant , Stratford Conn.		
4. Project Title Expansion of Building #6	5. Project Number 1878173-73/2	

Estimated Construction Start March 1987
Estimated Midpoint of Construction October 1987
Estimated Construction Completion July 1988

Donna L. Ashford
Donna L. Ashford, Chief
Plant Design & Construction

1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. Date FEB 86
3. Installation and Location Stratford Army Engine Plant , Stratford Conn.		
4. Project Title Expansion of Building #6	5. Project Number 1878173-73/2	

SUPPLEMENTAL DATA

A.	Estimated Annual Cost to Operate Proposed Facility	\$ 25,454
B.	Number of <u>Additional Personnel Necessary</u> to Carry Out the Function of the Proposed Facility.	0
C.	Estimated Life Cycle Cost to Operate and Maintain the Desired Facility.	\$636,350
D.	Estimated Life Cycle Cost to Operate and Maintain the Existing Facility if New Facility is a Replacement.	N/A
E.	Planning and Design (Estimate)	
1.	Status	
a.	Data Design Started	
b.	Percent Complete as of January 1, 1985	0
c.	Percent Complete as of October 1, 1985	80%
d.	Data Design Completed December 31, 1985	100%
2.	Basis	
a.	Standard or Definitive Design	Standard
b.	Where Design was most Recently Used	Avco SAEP, CT
3.	Cost (Total)	
a.	Production of Plans and Specs (6% Limit)	\$223,740
b.	All Other Design Costs	0
c.	Total Cost = (a + b) = (d + e)	\$223,740
d.	Contract	\$223,740
e.	In House	0
4.	Construction Start Date (Planned)	March 1987

1. Component ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. Date FEB 86
----------------------	--	-------------------

3. Installation and Location
Stratford Army Engine Plant, Stratford Conn.

4. Project Title Expansion of Building #6	5. Project Number 1878173-73/2
--	-----------------------------------

F. Equipment Associated with this Project which will be provided from other Appropriations.

Air and Water Flow Facility

Replace Substation #70

Replace Switchgear

Sand and Dust Facility

AC/DC Converter

Frick Refrigeration Plant

Refurbishment of Bldg. #6A

Noise Abatement for 700 HP Blower

Convert 3 Phase, 480V Ungrounded System to Grounded System

Environmental Fuel Test Stand

DEPARTMENT OF THE ARMY
JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1987
SUMMARY

P-1 Line No: 24

Appropriation: Procurement of Missiles, Army

Activity 5 - Support Equipment and Facilities

<u>Installation</u>	<u>Project No.</u>	<u>Project Title</u>	<u>Cost Estimate Millions)</u>	<u>Page No.</u>
Redstone Arsenal, Alabama	3872169	PSER Water Pipe Line Potable	.2	11
Redstone Arsenal, Alabama	3872209	Modernization Rocket Motor Loading Mod	2.5	14

1. COMPONENT ARMY		FY 19 87 MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama			4. PROJECT TITLE PSER Water Pipe Line Porable		
5. PROGRAM ELEMENT		6. CATEGORY CODE	7. PROJECT NUMBER 3872169	8. PROJECT COST (\$000) 220	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
PRIMARY FACILITY WATER LINE			7,550	25.43	192 (192)
SUPPORT FACILITIES					
SUBTOTAL					192
CONTINGENCY PERCENT (10.00%)					19
TOTAL CONTRACT COST					211
SUPERVISION, INSPECT & OVHD (5.60%)					12
TOTAL REQUEST					223
TOTAL REQUEST (ROUNDED)					220
INSTALLED EQUIPMENT-OTHER APPROP					0)
10. Description of Proposed Construction					
<p>Replace 6,000 feet of 6 inch diameter water line with 8 inch in Line 2 area. Replace 550 feet of water line to building 7368 with 8 inch line. Install 1000 feet of new 8 inch water line to building 7625. This project is not located in a flood plain.</p>					
<p>11. REQUIREMENT: 7,550LF ADEQUATE: 0LF SUBSTD: 6,550LF PROJECT :</p>					
<p>This project will replace some lengths of water line and install others.</p>					

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama		
4. PROJECT TITLE PSER Water Pipe Line Potable		5. PROJECT NUMBER 3872169
<p>REQUIREMENT :</p> <p>Existing line is old and requires frequent repair. Fire flow requirements are insufficient.</p> <p>CURRENT SITUATION :</p> <p>Fire flow is currently inadequate.</p> <p>IMPACT IF NOT PROVIDED :</p> <p>There is insufficient fire flow and in the event of fire substantial costs will be incurred.</p> <p>PETER G. BURBULES Major General, USA Commanding</p> <p>ESTIMATED CONSTRUCTION START: APRIL 1987 INDEX: 1539 ESTIMATED MIDPOINT OF CONSTRUCTION: OCTOBER 1987 INDEX: 1577 ESTIMATED CONSTRUCTION COMPLETION: APRIL 1988 INDEX: 1602</p>		

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama		
4. PROJECT TITLE PSER Water Pipe Line Potable		5. PROJECT NUMBER 3872169

SUPPLEMENTAL DATA

A. ESTIMATED ANNUAL COST TO OPERATE PROPOSED FACILITY 1,249 (\$000)

B. NUMBER OF ADDITIONAL PERSONNEL NECESSARY TO CARRY OUT THE FUNCTION OF THE PROPOSED FACILITY..... 0 (PEOPLE)

C. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE DESIRED FACILITY..... 31 (\$000)

D. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE EXISTING FACILITY IF NEW FACILITY IS A REPLACEMENT..... 130 (\$000)

E. PLANNING AND DESIGN DATA (ESTIMATE)

1. STATUS

a. DATE DESIGN STARTED..... Dec 84

b. PERCENT COMPLETE AS OF JANUARY 15 1986.. 80

c. PERCENT COMPLETE AS OF OCTOBER 1 1986.. 100

d. DATE DESIGN COMPLETED..... Mar 86

2. BASIS

a. STANDARD OR DEFINITIVE DESIGN YES X NO

b. WHERE DESIGN WAS MOST RECENTLY USED:

3. COST (TOTAL - \$000)

a. PRODUCTION OF PLANS AND SPECS 5

b. ALL OTHER DESIGN COSTS..... 5

c. TOTAL COST (c) = (a)+(b) OR (d)+(e)..... 1.5

d. CONTRACT..... 4.2

e. IN HOUSE.....

4. CONSTRUCTION START DATE (PLANNED)..... Oct 86

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86	
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama			4. PROJECT TITLE Modernization ROCKET MOTOR LOADING MOD			
5. PROGRAM ELEMENT		6. CATEGORY CODE	7. PROJECT NUMBER 2209		8. PROJECT COST (\$000) 2,550	
9. COST ESTIMATES						
ITEM			U/M	QUANTITY	UNIT COST	COST (\$000)
PRIMARY FACILITY						1,709
Motor Surge South				10,000	47.40	474)
Motor Surge North (V)				20,000	43.05	861)
Pack and Ship MK70 (Q)				2,670	140.00	374)
SUPPORT FACILITIES						481
Electric Service				--	--	145)
Water, Sewer & Gas				--	--	87)
Steam, Chilled Water & Heat Dist				--	--	57)
Paving, Walks, Curbs & Gutters				--	--	192)
SUBTOTAL						2,190
CONTINGENCY PERCENT (10.00%)						219
TOTAL CONTRACT COST						2,409
SUPERVISION, INSPECT & OVHD (5.60%)						135
TOTAL REQUEST						2,544
TOTAL REQUEST (ROUNDED)						2,550
INSTALLED EQUIPMENT-OTHER APPROP						0)
10. Description of Proposed Construction						
<p>This project consists of 3 subprojects with necessary roads and utilities to provide modern facilities designed for solid rocket motor production. These buildings will be designed for energy efficient facilities to produce 1.1 and 1.3 hazard classification solid rocket motors. Safety requirements in AMCR 385-100 will be met. The buildings are not located in a flood plain.</p>						
<p>11. REQUIREMENT: 32,670SF ADEQUATE: OSF SUBSTD: OSF PROJECT :</p>						
<p>This project will provide surge facilities in the north and south plants plus a pack and ship building for Mark 70 motors.</p>						

1. COMPONENT ARMY	FY 19 87 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama		
4. PROJECT TITLE Modernization ROCKET MOTOR LOADING MOD	5. PROJECT NUMBER 2209	
<p>REQUIREMENT :</p> <p>This project will minimize effects of facility or equipment shutdowns on production lines and will make existing facilities more efficient. It will also provide a specialized facility to process motors for packing and shipping.</p> <p>CURRENT SITUATION :</p> <p>Solid rocket motors are being manufactured in modified buildings designed for artillery shell loading during 1938 to 1942 (1.3 hazard class propellants). 1.1 propellants are more demanding in safety requirements and are not compatible with 1.3 propellants. Continued impacts of safety constraints have made work arounds for 1.1 propellants unfeasible. The South Plant Surge building is necessary to allow reasonably uninterrupted production; thereby eliminating impact on contractual requirements.</p> <p>IMPACT IF NOT PROVIDED :</p> <p>Operations will continue in a building unsuitable for packing and shipping motors unsuitable due to lack of temperature and</p>		

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama		
4. PROJECT TITLE Modernization ROCKET MOTOR LOADING MOD	5. PROJECT NUMBER 2209	
<p>humidity controls. Production bottlenecks either slow or close entire lines.</p> <p>PETER G. BURBULES Major General, USA Commanding</p> <p>ESTIMATED CONSTRUCTION START: OCTOBER 1986 INDEX: 1513 ESTIMATED MIDPOINT OF CONSTRUCTION: APRIL 1987 INDEX: 1539 ESTIMATED CONSTRUCTION COMPLETION: OCTOBER 1987 INDEX: 1577</p>		

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Redstone Arsenal Alabama		
4. PROJECT TITLE Modernization ROCKET MOTOR LOADING MOD		5. PROJECT NUMBER 2209
<p>SUPPLEMENTAL DATA</p> <p>A. ESTIMATED ANNUAL COST TO OPERATE PROPOSED FACILITY 125 (\$000)</p> <p>B. NUMBER OF ADDITIONAL PERSONNEL NECESSARY TO CARRY OUT THE FUNCTION OF THE PROPOSED FACILITY..... 0 (PEOPLE)</p> <p>C. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE DESIRED FACILITY..... 3125 (\$000)</p> <p>D. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE EXISTING FACILITY IF NEW FACILITY IS A REPLACEMENT..... (\$000)</p> <p>E. PLANNING AND DESIGN DATA (ESTIMATE)</p> <p>1. STATUS</p> <p> a. DATE DESIGN STARTED..... JUL 84</p> <p> b. PERCENT COMPLETE AS OF JANUARY 15 1986.. 70</p> <p> c. PERCENT COMPLETE AS OF OCTOBER 1 1986.. 100</p> <p> d. DATE DESIGN COMPLETED..... MAR 86</p> <p>2. BASIS</p> <p> a. STANDARD OR DEFINITIVE DESIGN YES NO X</p> <p> b. WHERE DESIGN WAS MOST RECENTLY USED:</p> <p>3. COST (TOTAL - \$000)</p> <p> a. PRODUCTION OF PLANS AND SPECS</p> <p> b. ALL OTHER DESIGN COSTS.....</p> <p> c. TOTAL COST (c) = (a)+(b) OR (d)+(e).....</p> <p> d. CONTRACT.....</p> <p> e. IN HOUSE.....</p> <p>4. CONSTRUCTION START DATE (PLANNED)..... OCT 86</p>		

DEPARTMENT OF THE ARMY
JUSTIFICATION OF ESTIMATES FOR FISCAL YEAR 1987
SUMMARY

P-1 Line No: 28

Appropriation: Procurement of Weapons and Tracked Combat Vehicles, Army
Activity 1 - Tracked Combat Vehicles.

<u>Installation</u>	<u>Project No.</u>	<u>Project Title</u>	<u>Cost Estimate Millions)</u>	<u>Page No.</u>
Mainz Army Temp. Depot Mainz, Germany	G872006	Alteration Facilitization at Mainz Army Depot	1.6	19
Mainz Army Depot Mainz, Germany	3876878289	Funct Firing Bldg	.9	23

1. COMPONENT ARMY		FY 19 87 MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION MAINZ Germany			4. PROJECT TITLE Alteration Facilitization at Mainz Army Depot		
5. PROGRAM ELEMENT		6. CATEGORY CODE 000 00	7. PROJECT NUMBER TEMP G872006	8. PROJECT COST (\$000) 1,600	
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
PRIMARY FACILITY					1,449
Administration Building		SF	12,550	79.20(994)
Relocate Motor Pool		SF	5,380	84.60(455)
SUPPORT FACILITIES					
SUBTOTAL					
CONTINGENCY PERCENT (5.00%)					72
TOTAL CONTRACT COST					1,521
SUPERVISION, INSPECT & OVHD (6.50%)					99
TOTAL REQUEST					1,620
TOTAL REQUEST (ROUNDED)					1,600
INSTALLED EQUIPMENT-OTHER APPROP					(0)
10. Description of Proposed Construction					
<p>The primary facility to support expansion of MZAD will require dismantling of existing buildings, modification to other existing buildings and new facilities. The primary facilities work will be performed at the site of the original depot. Basic construction will be of reinforced concrete skeleton and in all cases will be site adapted to existing facilities. In addition, the project will include required utility services, emergency lighting, water purification treatment, compressed air, fire alarm and extinguishing system, partition walls and roof modifications. The hardstands and foundations will be of reinforced concrete.</p>					
11. REQUIREMENT: NA ADEQUATE: NA SUBSTD: 0 NA					
REQUIREMENT :					
As the Army's Force Modernization Program continues to be implemented throughout USAREUR, the workload in depot level maintenance will also increase. This is due to the increased sophistication of the new systems, the increased equipment density within the Theater, the numerous items					

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 85
3. INSTALLATION AND LOCATION MAINZ Germany		
4. PROJECT TITLE Alteration Facilitization at Mainz Army Depot		5. PROJECT NUMBER TEMP G872006
<p>REQUIREMENT : (CONT)..</p> <p>displaced to War Reserve or POMCUS status, and conversion to new equipment configurations. This will occur in all commodity areas. For most commodities, shipment to CONUS for repair is extremely costly. This is particularly true of Combat Vehicles which are bulky and heavy. In addition, CONUS repair requires that additional items, either end items or secondary items, be procured to increase the repair cycle float by the amount of the turn around required. The most economical approach to accomplish the expanding depot level workload for combat vehicles in USAREUR (and meet AMC's concept for depot level maintenance support in Europe) is to alter and expand the MZAD facility, thereby allowing sufficient space to overhaul/repair combat vehicles.</p> <p>CURRENT SITUATION :</p> <p>The Mainz Army Depot is a very physically constrained facility. The workload for the Weapon systems is presently being met through a subcontracting effort. The additional workload required for the repair/overhaul of the systems cannot be met without modernizing existing facilities by replacing existing temporary facilities with permanent structures and modernizing and expanding support facilities. Mainz is tasked with maintaining, at depot level, Army Combat/Tactical vehicles, missiles and Communication and Electronics in Europe. The only reasonable alternatives to utilizing Mainz is to transfer all repairable combat vehicles and components of vehicles in Europe to a CONUS depot or contractor for the repair/overhaul. These alternatives and the extremely costly maintenance float requirement for combat vehicles and components would cause the US Government to lose all benefits to be gained from existing facilities and IPE at MZAD in relation to the combat vehicle fleet.</p> <p>IMPACT IF NOT PROVIDED :</p> <p>Should this project not be approved, Mainz would be unable to satisfy the repair/overhaul requirements. Failure to provide for the OCONUS maintenance of the USAREUR combat vehicle fleet will result in a significant degradation in the combat readiness of USAREUR or require costly second destination transportation of vehicles and components and necessitates having an extensive maintenance float in Europe. This facility project is necessary to meet an imminent demand for repair/overhaul capability. Delay of the projects will require that interim inefficient (and therefore costly) means</p>		

1. COMPONENT ARMY	FY 19 <u>87</u> MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86												
3. INSTALLATION AND LOCATION MAINZ Germany														
4. PROJECT TITLE Alteration Facilitization at Mainz Army Depot	5. PROJECT NUMBER TEMP G872006													
<p>IMPAC. IF NOT PROVIDED : (CONT)..</p> <p>be employed to attempt to satisfy the repair/overhaul requirements.</p> <p style="text-align: center;">STANLEY W. KENNEDY COL, QM Commander</p> <table border="0" style="width: 100%;"> <tr> <td>ESTIMATED CONSTRUCTION START:</td> <td>APRIL</td> <td>1988</td> <td>INDEX: 1602</td> </tr> <tr> <td>ESTIMATED MIDPOINT OF CONSTRUCTION:</td> <td>OCTOBER</td> <td>1988</td> <td>INDEX: 1640</td> </tr> <tr> <td>ESTIMATED CONSTRUCTION COMPLETION:</td> <td>APRIL</td> <td>1989</td> <td>INDEX: 1664</td> </tr> </table>			ESTIMATED CONSTRUCTION START:	APRIL	1988	INDEX: 1602	ESTIMATED MIDPOINT OF CONSTRUCTION:	OCTOBER	1988	INDEX: 1640	ESTIMATED CONSTRUCTION COMPLETION:	APRIL	1989	INDEX: 1664
ESTIMATED CONSTRUCTION START:	APRIL	1988	INDEX: 1602											
ESTIMATED MIDPOINT OF CONSTRUCTION:	OCTOBER	1988	INDEX: 1640											
ESTIMATED CONSTRUCTION COMPLETION:	APRIL	1989	INDEX: 1664											

1. COMPONENT ARMY	FY 19 <u>87</u> MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION MAINZ Germany		
4. PROJECT TITLE Alteration Facilitization at Mainz Army Depot	5. PROJECT NUMBER TEMP G872006	
<p>SUPPLEMENTAL DATA</p> <p>A. ESTIMATED ANNUAL COST TO OPERATE PROPOSED FACILITY (\$000)</p> <p>B. NUMBER OF ADDITIONAL PERSONNEL NECESSARY TO CARRY OUT THE FUNCTION OF THE PROPOSED FACILITY..... (PEOPLE)</p> <p>C. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE DESIRED FACILITY..... (\$000)</p> <p>D. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE EXISTING FACILITY IF NEW FACILITY IS A REPLACEMENT..... (\$000)</p> <p>E. PLANNING AND DESIGN DATA (ESTIMATE)</p> <p>1. STATUS</p> <p> a. DATE DESIGN STARTED.....</p> <p> b. PERCENT COMPLETE AS OF JANUARY 15 1986..</p> <p> c. PERCENT COMPLETE AS OF OCTOBER 1 1986..</p> <p> d. DATE DESIGN COMPLETED.....</p> <p>2. BASIS</p> <p> a. STANDARD OR DEFINITIVE DESIGN YES NO</p> <p> b. WHERE DESIGN WAS MOST RECENTLY USED:</p> <p>3. COST (TOTAL - \$000)</p> <p> a. PRODUCTION OF PLANS AND SPECS</p> <p> b. ALL OTHER DESIGN COSTS.....</p> <p> c. TOTAL COST (c) = (a)+(b) OR (d)+(e).....</p> <p> d. CONTRACT.....</p> <p> e. IN HOUSE.....</p> <p>4. CONSTRUCTION START DATE (PLANNED).....</p>		

1. COMPONENT ARMY		FY 19 87		MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION Mainz Germany				4. PROJECT TITLE Funct Firing Simulator Bldg			
5. PROGRAM ELEMENT		6. CATEGORY CODE		7. PROJECT NUMBER 3876878289		8. PROJECT COST (\$000) 890	
9. COST ESTIMATES							
ITEM				U/M	QUANTITY	UNIT COST	COST (\$000)
PRIMARY FACILITY Building Construction					4,520	165.00	746 746
SUPPORT FACILITIES Energy and Water Supply, Sewer					--	--	53 53
SUBTOTAL							799
CONTINGENCY PERCENT (5.00%)							40
TOTAL CONTRACT COST							839
SUPERVISION, INSPECT & OVHD (6.50%)							55
TOTAL REQUEST							894
TOTAL REQUEST (ROUNDED)							890
INSTALLED EQUIPMENT-OTHER APPROP							2,838
10. Description of Proposed Construction							
<p>Construction of a solid building in the dimensions of approximately 91 ft. 10 in. x 49 ft. 2 in. = 4520 SF gross floor area; reinforced concrete foundation, steel frame, concrete or masonry construction insulated roof, walls and windows, 2 ea overhead rolling gates electrical operated, emergency exits, crane way, exterior and interior painting, storm and sewer connection, steam substation, wall heaters, valves, traps steam and condensate lines with thermal insulation; compressed air distribution. Electric main distribution, wiring installation channels, switches, sockets, lighting system with multi vapor fixtures, special noise protection of walls, roofs and gates.</p>							
<p>11. REQUIREMENT: 4,520SF ADEQUATE: OSF SUBSTD: OSF PROJECT : Construction of a building to house the Functional Firing Simulator for overhauled artillery and tanks.</p>							

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Mainz Germany		
4. PROJECT TITLE Funct Firing Simulator Bldg	5. PROJECT NUMBER 3876878289	
<p>REQUIREMENT :</p> <p>The project is required to provide adequate space for installation and operation of a firing simulator system. For this reason a building with adequate space for the test equipment and equiped with crane facilities for transporting of guns is absolutely necessary. The building structure must meet the special statical situation and be sufficiently noise protected. There are no other existing buildings or facilities which can be used or converted for use to meet this requirement.</p> <p>CURRENT SITUATION :</p> <p>Currently, combat vehicles are taken to Vilseck, Germany, and artillery are taken to Rheinmetal, Germany for functional firing. These locations are approximately 150 and 300 miles from Mainz, Germany, respectively. A functional firing simulator will permit functional testing of overhauled artillery or combat vehicles to verify the recoil system is functioning within TDP specifications.</p> <p>IMPACT IF NOT PROVIDED :</p> <p>If the above project will not be approved the negative effects indicated above cannot be avoided.</p>		

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Mainz Germany		
4. PROJECT TITLE Funct Firing Simulator Bldg		5. PROJECT NUMBER 3876878289

SUPPLEMENTAL DATA

- A. ESTIMATED ANNUAL COST TO OPERATE PROPOSED FACILITY (\$000)
- B. NUMBER OF ADDITIONAL PERSONNEL NECESSARY TO CARRY OUT THE FUNCTION OF THE PROPOSED FACILITY..... (PEOPLE)
- C. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE DESIRED FACILITY..... (\$000)
- D. ESTIMATED LIFE-CYCLE COST TO OPERATE AND MAINTAIN THE EXISTING FACILITY IF NEW FACILITY IS A REPLACEMENT..... (\$000)
- E. PLANNING AND DESIGN DATA (ESTIMATE)
 - 1. STATUS
 - a. DATE DESIGN STARTED.....
 - b. PERCENT COMPLETE AS OF JANUARY 15 1986..
 - c. PERCENT COMPLETE AS OF OCTOBER 1 1986..
 - d. DATE DESIGN COMPLETED.....
 - 2. BASIS
 - a. STANDARD OR DEFINITIVE DESIGN YES NO
 - b. WHERE DESIGN WAS MOST RECENTLY USED:
 - 3. COST (TOTAL - \$000)
 - a. PRODUCTION OF PLANS AND SPECS
 - b. ALL OTHER DESIGN COSTS.....
 - c. TOTAL COST (c) = (a)+(b) OR (d)+(e).....
 - d. CONTRACT.....
 - e. IN HOUSE.....
 - 4. CONSTRUCTION START DATE (PLANNED).....

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
3. INSTALLATION AND LOCATION Mainz Germany		
4. PROJECT TITLE Funct Firing Simulator Bldg	5. PROJECT NUMBER 3876878289	
<p>NATO INFRASTRUCTURE : Not Applicable</p> <p>STANLEY W. KENNEDY COL, QM Commander</p> <p>ESTIMATED CONSTRUCTION START: APRIL 1987 INDEX: 1539 ESTIMATED MIDPOINT OF CONSTRUCTION: OCTOBER 1987 INDEX: 1577 ESTIMATED CONSTRUCTION COMPLETION: APRIL 1988 INDEX: 1602</p>		

Department of the Army
Justification of Estimates for Fiscal Year 1987
Summary

APPROPRIATION: Procurement of Ammunition, Army

ACTIVITY 2 - Production Base Support

<u>Army Ammunition Plants (AAP)</u>	<u>Project No.</u>	<u>Project Title</u>	<u>Construction Cost Estimate</u>	<u>Page No.</u>
Holston AAP	5875328-51	Turbine Generator for Building B-6	\$.330	28
	5872439	Modernize A-5 Drying Process	3.000	30
	5873000	Modernize "A" Composition Facilities	5.000	32
Indiana AAP	5872158	Modernize Testing Lab	1.300	34
	5875330-15	Access Roads to Shiphouses	.260	36
Kansas AAP	5875329-14	Upgrade Coal Handling System	.640	38
	5875329-16	Emergency Lighting and Power for 300 Line	.410	40
Lake City AAP	5875332-23	Construct 2 Water Wells	.370	42
Milan AAP	5875317-16	Ammunition Storage Magazines	.610	44
Radford AAP	5875326-13	Replace Explosion Protection Barricade	1.100	46
	5872225	Electric Power Center Upgrade	9.200	48
	5872307	155mm Stick Process Upgrade	.750	51
	5872134	Steam Supply Line to Horseshoe Area	8.700	53
	TOTAL		\$31.670 M	

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86		
3. INSTALLATION AND LOCATION Holston Army Ammunition Plant, Tennessee				4. PROJECT TITLE Turbine Generator for Building B-6 (ECAM)			
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 811	7. PROJECT NUMBER (5875328-51) 74		8. PROJECT COST (\$000) Auth 330 Approp 0		
9. COST ESTIMATES							
ITEM				U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility							226
Steam Turbine/Generator Set				LS	-	-	(214)
6" Steam Supply Line w/Insul				LS	-	-	(6)
8" Steam Exhaust w/Insulation				LS	-	-	(6)
Supporting Facilities							59
Electric Service				LS	-	-	(23)
Transformer				LS	-	-	(36)
Subtotal							285
Contingency (10.00%)							29
Total Contract Cost							314
Supervision, Inspection & Overhead (5.50%)							17
Total Request							331
Total Request (Rounded)							330
Installed Equipment - Other Appropriations							(0)
10. Description of Proposed Construction: Furnish and install turbine generator set in Building B-6 with steam supply and exhaust lines, electrical work and switch gear, desuperheater, valves, traps, and required appurtenances.							
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None							
PROJECT: Install steam turbine generator set to recover energy from high pressure, superheated steam through generation of electricity.							
REQUIREMENT: This project is required to effect energy conservation by saving 29,738 MBTUs of steam energy per year. The high quality mechanical energy of the 300 psig steam (reduced to 30 psig), presently used only as thermal energy for Building B-3 process heating, can be recovered by using it in a steam turbine-generator to produce electrical energy. The lower quality steam discharged from the turbine can then still be used at Building B-3 for process heating purposes.							
CURRENT SITUATION: Presently, 300 psig steam is reduced to 30 psig at Building B-11 and piped to Building B-3 for desuperheating and used as low pressure process steam. At an average steam requirement of 17,000 lb/hr, a substantial cost reduction can be realized by utilizing a steam turbine/induction generator set to provide pressure reduction and desuperheating of the 300 psig steam. The superheat and pressure energy can							

COMPONENT	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE
ARMY		FEB 86
3. INSTALLATION AND LOCATION		
Holston Army Ammunition Plant, Tennessee		
4. PROJECT TITLE		5. PROJECT NUMBER
Turbine Generator for Building B-6 (ECAM)		74
<p>11. REQUIREMENT: (Continued) CURRENT SITUATION: (Continued) be recovered as electrical power using the turbine-generator and the turbine discharge steam can then be used to meet process steam requirements at Building B-3. IMPACT IF NOT PROVIDED: Failure to approve this project will result in recoverable energy being lost through the process of reducing the pressure and desuperheating to allow use at Building B-3 as process steam, and the projected cost savings cannot be realized.</p>		
12. SUPPLEMENTAL DATA:		
A. Estimated Design Data:		
(1) Status:		
(a)	Date Design Started	<u>MAR 85</u>
(b)	Percent Complete As Of January 1986	<u>35</u>
(c)	Percent Complete As Of October 1986	<u>100</u>
(d)	Date Design Complete	<u>JUN 86</u>
(2) Basis:		
(a)	Standard or Definitive Design - Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
(b)	Where Design Was Most Recently Used <u>NA</u>	
(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)		
(a)	Production of Plans and Specifications	<u>19</u>
(b)	All Other Design Costs	<u>32</u>
(c)	Total Cost	<u>51</u>
(d)	Contract	<u>36</u>
(e)	In-house	<u>15</u>
(4)	Construction Start	<u>JUL 87</u> month & year
B. Equipment associated with this project which will be provided from other appropriations:		
Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested
	None	Cost (\$000) <u>0</u>
	TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION Holston Army Ammunition Plant, Tennessee			4. PROJECT TITLE Modernize Composition A-5 Drying Process		
5. PROGRAM ELEMENT 78011A	6. CATEGORY CODE 226	7. PROJECT NUMBER (5872439) 73	8. PROJECT COST (\$000) Auth 3,000 Approp 0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility New Construction		LS	-	-	2,600 (2,600)
Supporting Facilities Utilities, Paving, Walks		LS	-	-	110 (110)
Subtotal					2,710
Contingency (5.00%)					136
Total Contract Cost					2,846
Supervision, Inspection & Overhead (5.50%)					157
Total Request					3,003
Total Request (Rounded)					3,000
Installed Equipment - Other Appropriations					(2,900)
10. Description of Proposed Construction New construction, alterations, support facilities and utilities as required to modernize A-5 Drying Process.					
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Modernize Composition A-5 Drying Process. REQUIREMENT: This project is required to modernize an existing drying process to reduce labor and operating space requirements and make existing facilities available for production of other A-Compositions and PBX-Compositions. The proposed modernization is needed to meet FYDP production requirements. CURRENT SITUATION: Composition A-5 explosive is now dried using drying beds which require extra labor, utilities and facility space. The plant cannot meet the FYDP production requirements without additional, faster drying methods. The FYDP production for Composition A-5 alone would require all existing drying beds. IMPACT IF NOT PROVIDED: If this project is not provided, the plant cannot meet the FYDP production requirements and excessive operating costs will continue for the explosive produced using the existing drying bed process.					
12. SUPPLEMENTAL DATA:					

COMPONENT	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE	
ARMY		FEB 86	
3. INSTALLATION AND LOCATION			
Holston Army Ammunition Plant, Tennessee			
4. PROJECT TITLE		5. PROJECT NUMBER	
Modernize Composition A-5 Drying Process		73	
12. SUPPLEMENTAL DATA: (Continued)			
A. Estimated Design Data:			
(1) Status:			
(a) Date Design Started		<u>JAN 86</u>	
(b) Percent Complete As Of January 1986		<u>0</u>	
(c) Percent Complete As Of October 1986		<u>100</u>	
(d) Date Design Complete		<u>OCT 86</u>	
(2) Basis:			
(a) Standard or Definitive Design - Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
(b) Where Design Was Most Recently Used <u>NA</u>			
(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)			
(a) Production of Plans and Specifications		<u>40</u>	
(b) All Other Design Costs		<u>70</u>	
(c) Total Cost		<u>110</u>	
(d) Contract		<u>77</u>	
(e) In-house		<u>33</u>	
(4) Construction Start			
	<u>NOV 86</u>		
	month & year		
B. Equipment associated with this project which will be provided from other appropriations:			
Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
Drying Process Eq	PAA	87	<u>2,900</u>
		TOTAL	<u>2,900</u>

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86		
3. INSTALLATION AND LOCATION Holston Army Ammunition Plant, Tennessee				4. PROJECT TITLE Modernize A-Composition Facilities-Line 10			
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 226	7. PROJECT NUMBER (5873000 72		8. PROJECT COST (\$000) Auth 5,000 Approp 0		
9. COST ESTIMATES							
ITEM				U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>							4,280
New Construction				LS	-	-	(1,583)
Alteration, Conversion				LS	-	-	(2,697)
<u>Supporting Facilities</u>							234
Utilities, Paving, Site Work				LS	-	-	(234)
Subtotal							4,514
Contingency (5.00%)							226
Total Contract Cost							4,740
Supervision, Inspection & Overhead (5.50%)							261
Total Request							5,001
Total Request (Rounded)							5,000
Installed Equipment - Other Appropriations							(19,700)
10. Description of Proposed Construction New construction, alteration, conversion, utilities services, paving and site work as required to modernize A-Composition production facilities on Line 10. Demolish 5 existing substandard buildings (14,480 SF).							
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None. PROJECT: Modernize A-Composition production facilities on Line 10. REQUIREMENT: This project is required to establish sufficient production capability to meet mobilization end-product outpost levels for A-Composition explosives and to enhance production worker safety. CURRENT SITUATION: Line 10 is now configured for batch type production of B-Composition explosive and is presently in layaway. Modernization of Line 10 for A-Compositions manufacture is necessary to meet established modernization production rates. Holston is the sole producer of RDX explosives in the United States. Compositions A-3, A-4 and A-5 are coated RDX products used in press-loaded munitions. IMPACT IF NOT PROVIDED: If this project is not provided, the mobilization production levels for A-Composition explosives cannot be met and the existing batch process production facilities will continue to pose higher than necessary risks to production worker safety.							

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
----------------------	--	-------------------

3. INSTALLATION AND LOCATION
Holston Army Ammunition Plant, Tennessee

4. PROJECT TITLE Modernize A-Composition Facilities-Line 10	5. PROJECT NUMBER 72
--	-------------------------

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

- (1) Status:
- (a) Date Design Started MAR 86
 - (b) Percent Complete As Of January 1986 0
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete OCT 86
- (2) Basis:
- (a) Standard or Definitive Design - Yes No
 - (b) Where Design Was Most Recently Used NA
- (3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)
- (a) Production of Plans and Specifications 165
 - (b) All Other Design Costs 261
 - (c) Total Cost 426
 - (d) Contract 205
 - (e) In-house 221
- (4) Construction Start NOV 86
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
Ammo Production Eq	PAA	87	<u>19,700</u>
		TOTAL	<u>19,700</u>

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86		
3. INSTALLATION AND LOCATION Indiana Army Ammunition Plant, Indiana				4. PROJECT TITLE Modernize Testing Laboratories			
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 226	7. PROJECT NUMBER (5872158) 47		8. PROJECT COST (\$000) Auth 1,300 Approp 0		
9. COST ESTIMATES							
ITEM				U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>							1.128
Central Lab Modernization				SF	8,400	124.87	(1,049)
Metrology Lab Modernization				SF	2,900	13.76	(40)
Explosive Samples Magazine				SF	210	187.62	(39)
<u>Supporting Facilities</u>							33
Electric Service				LS	-	-	(13)
Paving, Walks, Curbs & Gutters				LS	-	-	(5)
Storm Drainage				LS	-	-	(2)
Site Improvement				LS	-	-	(13)
Subtotal							1,161
Contingency (5.00%)							58
Total Contract Cost							1,219
Supervision, Inspection & Overhead (5.50%)							67
Total Request							1,286
Total Request (Rounded)							1,300
Installed Equipment - Other Appropriations							(700)
10. Description of Proposed Construction Construct alterations and improvements to Central Laboratory (Building 228-1) and Metrology Laboratory (Building 2591) and construct new Explosive Samples Magazine. Work includes improvements to building utility support, paving and walks, storm drainage and site work.							
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None							
PROJECT: Alter two existing laboratory buildings and construct explosive samples storage magazine.							
REQUIREMENT: Upgrading of the Chemical and Physical Testing Laboratories is needed to provide a safe and adequate quality control operation at this plant.							
CURRENT SITUATION: The existing laboratories were first activated during World War II and because of their age and physical condition they do not meet present-day safety regulations, or meet electrical and building codes. The buildings have been cited for eight (8) OSHA safety violations in the wiring, electrical devices and controls, and they lack explosion-proof fixtures in the hazardous, black powder testing area. Chemical fume hoods have insufficient exhaust air flow and makeup-air systems. Most lab areas lack the controlled temperature and humidity required for accurate quality control testing, and existing work areas are not efficient because of poor functional layouts.							
IMPACT IF NOT PROVIDED: If this project is not provided, this plant must							

COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
--------------------------	--	--------------------------

3. INSTALLATION AND LOCATION
Indiana Army Ammunition Plant, Indiana

4. PROJECT TITLE Modernize Testing Laboratories	5. PROJECT NUMBER 47
---	--------------------------------

11. REQUIREMENT: (Continued)
 IMPACT IF NOT PROVIDED: (Continued)
 continue to operate with substandard and inefficient testing laboratory facilities and laboratory personnel will continue to be exposed under the present working conditions that do not meet safety codes for the handling of hazardous materials.
 ADDITIONAL: Modern laboratory and test equipment will be installed in the upgraded facilities. The equipment will be funded with Procurement Dollars and will cost approximately \$293,000.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

(1) Status:

(a) Date Design Started	<u>NOV 82</u>
(b) Percent Complete As Of January 1986	<u>100</u>
(c) Percent Complete As Of October 1986	<u>100</u>
(d) Date Design Complete	<u>Nov 83</u>

(2) Basis:

(a) Standard or Definitive Design - Yes No

(b) Where Design Was Most Recently Used NA

(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)

(a) Production of Plans and Specifications	<u>114</u>
(b) All Other Design Costs	<u>122</u>
(c) Total Cost	<u>236</u>
(d) Contract	<u>146</u>
(e) In-house	<u>90</u>

(4) Construction Start

JAN 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
Laboratory Equip	PAA	87	<u>700</u>
		TOTAL	<u>700</u>

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86		
3. INSTALLATION AND LOCATION Indiana Army Ammunition Plant, Indiana				4. PROJECT TITLE Access Roads to Shiphouses			
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 851	7. PROJECT NUMBER (5875330-15) 46		8. PROJECT COST (\$000) Auth 260 Approp 0		
9. COST ESTIMATES							
ITEM				U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility							159
Access Roads							()
4" Gravel Base				SY	22.900	2.25	(52)
4" Gravel Surface				SY	21.950	2.30	(50)
Grading and Excavation				LS	-	-	(45)
Railroad Crossing & Ballast Curb				LS	-	-	(12)
Supporting Facilities							72
Electric Service				LS	-	-	(19)
Storm Drainage				LS	-	-	(11)
Demolition & Site Work				LS	-	-	(42)
Subtotal							231
Contingency (5.00%)							12
Total Contract Cost							243
Supervision, Inspection & Overhead (5.50%)							13
Total Request							256
Total Request (Rounded)							260
Installed Equipment - Other Appropriations							(0)
10. Description of Proposed Construction Construct access roads to sixteen (16) rail shiphouses used for explosive storage. Work includes gravel roads, excavation, grading, storm drainage, relocation of electric lines, construction of railroad crossings, demolition and site work.							
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Construct gravel access roads to existing rail shiphouses. REQUIREMENT: Access roads are needed to allow trailer truck access to existing shiphouses that have only rail access, in order to satisfy end-product storage requirements. CURRENT SITUATION: This project is the third phase of the ongoing effort to provide adequate storage facilities for Class 1.3 explosives through the conversion of existing railroad shiphouses to motor-truck-accessible explosive storage facilities. This plant now lacks adequate facilities for the temporary storage of explosive end-products resulting from current production quotas. Economic analysis indicates that the provision of access roads and conversion of the shiphouse to permit fork-lift truck operation will result in savings in operating costs of approximately \$23,000 per building per year. IMPACT IF NOT PROVIDED: If this project is not provided, the plant will continue to lack adequate storage facilities, more people than necessary will							

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-----------------------------	---	--------------------------

3. INSTALLATION AND LOCATION
Indiana Army Ammunition Plant, Indiana

4. PROJECT TITLE Access Roads to Shiphouses	5. PROJECT NUMBER 46
--	-------------------------

11. REQUIREMENT: (Continued)
 IMPACT IF NOT PROVIDED: (Continued)
 be exposed to the hazards of manually handling explosives and savings in operating cost of approximately \$368,000 annually cannot be realized.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

(1) Status:

(a) Date Design Started	<u>NOV 85</u>
(b) Percent Complete As Of January 1986	<u>100</u>
(c) Percent Complete As Of October 1986	<u>100</u>
(d) Date Design Complete	<u>DEC 85</u>

(2) Basis:

(a) Standard or Definitive Design - Yes No

(b) Where Design Was Most Recently Used NA

(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)

(a) Production of Plans and Specifications	<u>3</u>
(b) All Other Design Costs	<u>26</u>
(c) Total Cost	<u>29</u>
(d) Contract	<u>1.22</u>
(e) In-house	<u>7</u>

(4) Construction Start

JAN 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
	None		<u>0</u>
		TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86	
3. INSTALLATION AND LOCATION Kansas Army Ammunition Plant, Kansas				4. PROJECT TITLE Upgrade Coal Handling System-Building 209		
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 821	7. PROJECT NUMBER (5875329-14) 33		8. PROJECT COST (\$000) Auth 640 Approp 0	
9. COST ESTIMATES						
ITEM				U/M	QUANTITY	COST (\$000)
<u>Primary Facility</u>						495
Coal Handling Equipment				LS	-	(376)
Structural/Civil Work				LS	-	(88)
Flyash Alteration/Rework				LS	-	(2)
Replace Windows/Glazing				LS	-	(9)
Electrical Work				LS	-	(20)
<u>Supporting Facilities</u>						52
Demolition and Site Work				LS	-	(52)
Subtotal						547
Contingency (10.00%)						55
Total Contract Cost						602
Supervision, Inspection & Overhead (5.50%)						33
Total Request						635
Total Request (Rounded)						640
Installed Equipment - Other Appropriations						(0)
10. Description of Proposed Construction Demolish existing coal handling system and replace with new. Work includes structural supports, rework of flyash system, electrical work, window replacement and site work.						
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Replace coal handling system on Boiler Plant 209. REQUIREMENT: This project is required to replace a worn-out coal handling system that is unrepairable. CURRENT SITUATION: The coal handling system was installed in 1941-42, when the boiler plant was built, and years of use has resulted in wear and tear and deterioration to the point that repair of the system is no longer feasible. IMPACT IF NOT PROVIDED: If this project is not provided, the existing system will continue to break down and eventually cause shutdown of the steam plant due to lack of fuel and thus cause loss of heat and process steam in the area served by Boiler Plant 209.						
12. SUPPLEMENTAL DATA: A. Estimated Design Data: (1) Status: (a) Date Design Started JAN 85						

COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-------------------	--	-------------------

3. INSTALLATION AND LOCATION
Kansas Army Ammunition Plant, Kansas

4. PROJECT TITLE Upgrade Coal Handling System-Building 209	5. PROJECT NUMBER 33
---	-------------------------

12. SUPPLEMENTAL DATA: (Continued)

A. Estimated Design Data: (Continued)

- (1) Status: (Continued)
- (b) Percent Complete As Of January 1986 90
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete JAN 86

(2) Basis:

- (a) Standard or Definitive Design - Yes ___ No X
- (b) Where Design Was Most Recently Used NA

(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)

- (a) Production of Plans and Specifications 23
- (b) All Other Design Costs _____
- (c) Total Cost 23
- (d) Contract 23
- (e) In-house 0

- (4) Construction Start JAN 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
	None		0
		TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION Kansas Army Ammunition Plant, Kansas			4. PROJECT TITLE Emergency Lighting & Power for 300 Line		
5. PROGRAM ELEMENT 78011A	6. CATEGORY CODE 812	7. PROJECT NUMBER (5875329-16) 34	8. PROJECT COST (\$000) Auth 410 Approp 0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>					290
Diesel Generator Set		LS	-	-	(210)
Distribution Switchgear		LS	-	-	(10)
Automatic Transfer Switches		LS	-	-	(20)
Emergency Lighting		LS	-	-	(11)
Conduit/Wire/Grounding		LS	-	-	(39)
<u>Supporting Facilities</u>					60
Other		LS	-	-	(60)
Subtotal					350
Contingency (10.00%)					35
Total Contract Cost					385
Supervision, Inspection & Overhead (5.50%)					21
Total Request					406
Total Request (Rounded)					410
Installed Equipment - Other Appropriations					(0)
10. Description of Proposed Construction Furnish and install emergency lighting and power systems for Load Line-300. Work includes diesel powered generator set in weatherproof enclosure, distribution and auto-transfer switches, wiring, foundation pads, diesel fuel storage, demolition and site work.					
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Construct emergency lighting and power system for Explosive Load Line-300. REQUIREMENT: Emergency lighting and power system is required to permit safe egress of employees and the safe removal of explosive components from production machinery when a power outage occurs. CURRENT SITUATION: Workers must now use hand-held, battery powered lanterns and flashlights to leave the buildings when the power falls and production equipment must be cleared of explosives by hand, using flashlights to see with. The provision of electric emergency lighting will allow production workers to leave the building safely, and the provision of electrical power to selected production machinery will lessen the hazardous exposure of maintenance personnel who must remove the potentially explosive, partially loaded end-items from the production machinery. IMPACT IF NOT PROVIDED: If this project is not provided, production workers					

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-----------------------------	---	--------------------------

3. INSTALLATION AND LOCATION
Kansas Army Ammunition Plant, Kansas

4. PROJECT TITLE Emergency Lighting & Power for 300 Line	5. PROJECT NUMBER 34
--	--------------------------------

11. REQUIREMENT: (Continued)
 IMPACT IF NOT PROVIDED: (Continued)
 and maintenance personnel will continue to be exposed to higher than necessary risks of injury or death whenever there is an electric power outage.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

- (1) Status:
- (a) Date Design Started JAN 85
 - (b) Percent Complete As Of January 1986 65
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete MAY 86

- (2) Basis:
- (a) Standard or Definitive Design - Yes No
 - (b) Where Design Was Most Recently Used NA

- (3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)
- (a) Production of Plans and Specifications 23
 - (b) All Other Design Costs 12
 - (c) Total Cost 35
 - (d) Contract 35
 - (e) In-house 0

- (4) Construction Start JAN 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
	None		<u>0</u>
		TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86	
3. INSTALLATION AND LOCATION Lake City Army Ammunition Plant, Missouri				4. PROJECT TITLE Construct 2 Water Wells		
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 841	7. PROJECT NUMBER (5875332-23) 28		8. PROJECT COST (\$000) Auth 370 Approp 0	
9. COST ESTIMATES						
ITEM				U/M	QUANTITY	COST (\$000)
Primary Facility						289
Well, Pump & Pumphouse (2 Ea)				LS	-	(203)
Water Lines (8" PVC)				LS	-	(86)
Supporting Facilities						41
Electric Service				LS	-	(13)
Gravel Roadways				LS	-	(28)
Subtotal						330
Contingency (5.00%)						17
Total Contract Cost						347
Supervision, Inspection & Overhead (5.50%)						19
Total Request						366
Total Request (Rounded)						370
Installed Equipment - Other Appropriations						(0)
10. Description of Proposed Construction Perform geological study to determine the location within Plant property where highly productive and quality wells may be drilled. Drill and construct two gravel-packed wells complete with access roads, permanent well houses, and connection to existing water collection system. Install two additional water filters complete with piping and control equipment at the existing water treatment plant.						
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Construct two water wells complete with connecting pipelines and necessary appurtenances. REQUIREMENT: This project is required to insure an adequate supply of process water for the plant's increasing production requirements, and to reduce the high pumping rates on the existing water well supply system. CURRENT SITUATION: The present ammunition production process water requirements are now being met by using high pumping rates, by rotating the pumping of the existing ten (10) wells, and by increasing the frequency of cleaning of the wells. The wells become incrustated because of the high pumping rates and their production capacity reduces by as much as 80-85 percent. This requires frequent back-washings to maintain well productivity. After back-washing, the productivity of the wells is adequate, but only for a short						

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
----------------------	--	-------------------

3. INSTALLATION AND LOCATION
Lake City Army Ammunition Plant, Missouri

4. PROJECT TITLE Construct 2 Water Wells	5. PROJECT NUMBER 28
---	-------------------------

11. REQUIREMENT: (Continued)
 CURRENT SITUATION: (Continued)
 period of time, as the quantity of water output decreases rapidly and additional cleaning of the wells is required.
 IMPACT IF NOT PROVIDED: If this project is not provided to allow lowering of the water pumping rates, the plant may not be able to produce adequate process water to meet increased production requirements, since the rapid deterioration of the existing wells will continue because of the high pumping rates and could result in complete failure of the wells.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

(1) Status:

(a) Date Design Started SEP 85
 (b) Percent Complete As Of January 1986 65
 (c) Percent Complete As Of October 1986 100
 (d) Date Design Complete JAN 86

(2) Basis:

(a) Standard or Definitive Design - Yes No X
 (b) Where Design Was Most Recently Used NA

(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)

(a) Production of Plans and Specifications 20
 (b) All Other Design Costs 10
 (c) Total Cost 30
 (d) Contract 23
 (e) In-house 7

(4) Construction Start JAN 87
 month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
	None		<u>0</u>
		TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86		
3. INSTALLATION AND LOCATION Milan Army Ammunition Plant, Tennessee				4. PROJECT TITLE Ammunition Storage Magazines for Line-B			
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 422	7. PROJECT NUMBER (5875317-16)		8. PROJECT COST (\$000) Auth 610 Approp 0		
9. COST ESTIMATES							
ITEM				U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility							401
Ammo Storage Magazine w/Dock				SF	3,460	70.58	(244)
Enclosed Walkway				LS	-	-	(157)
Supporting Facilities							145
Electric Service				LS	-	-	(4)
Paving, Walks, Curbs & Gutters				LS	-	-	(17)
Storm Drainage				LS	-	-	(31)
Site Improvement				LS	-	-	(86)
Demolition				LS	-	-	(7)
Subtotal							546
Contingency (5.00%)							27
Total Contract Cost							573
Supervision, Inspection & Overhead (5.50%)							32
Total Request							605
Total Request (Rounded)							610
Installed Equipment - Other Appropriations							(0)
10. Description of Proposed Construction Construct two (2) steel arch-type, earth-covered, explosive storage magazines with capacity to store 10,000 pounds of Class 1.1 explosive, or explosive loaded 40mm projectiles. Each magazine to have loading dock and access road. Construct 10-foot wide enclosed ramp from loading dock to existing ramp east of Building B-4. Heating, lighting and lightning protection is required. Demolish Buildings B-3 and B-28 (700 SF).							
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None							
PROJECT: Construct two (2), steel arch, earth-covered, metal storage magazines with docks and access roads.							
REQUIREMENT: This project is required to provide additional storage space for Composition A-5 Explosive and for storage of loaded 40mm projectiles.							
CURRENT SITUATION: Composition A-5 bulk explosive and loaded 40mm projectiles must now be stored in a portion of production Building B-4, designed as a press/pelleting facility, that is needed for its designed use, i.e., pressing/pelleting. The need to use a portion of B-4 as a storage area creates crowded conditions and takes up space required for press loading operations.							
IMPACT IF NOT PROVIDED: If this project is not provided, the press loading							

COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-------------------	--	-------------------

3. INSTALLATION AND LOCATION
Milan Army Ammunition Plant, Tennessee

4. PROJECT TITLE Ammunition Storage Magazines for Line-B	5. PROJECT NUMBER 41
---	-------------------------

11. REQUIREMENT: (Continued)
 IMPACT IF NOT PROVIDED: (Continued)
 operations cannot be expanded to satisfy production demand and hazardous overcrowding of Building B-4 will continue.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

- (1) Status:
- (a) Date Design Started SEP 84
 - (b) Percent Complete As Of January 1986 95
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete FEB 86
- (2) Basis:
- (a) Standard or Definitive Design - Yes X No
 - (b) Where Design Was Most Recently Used NA
- (3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)
- (a) Production of Plans and Specifications 30
 - (b) All Other Design Costs 24
 - (c) Total Cost 54
 - (d) Contract 41
 - (e) In-house 13
- (4) Construction Start JAN 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
	None		<u>0</u>
		TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION Radford Army Ammunition Plant, Virginia			4. PROJECT TITLE Replace Explosion Protection Barricades		
5. PROGRAM ELEMENT 78011A	6. CATEGORY CODE 226	7. PROJECT NUMBER (5875326-13) 99	8. PROJECT COST (\$000) Auth 1,100 Approp 0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
<u>Primary Facility</u>					894
Barricade Construction (5)		LS	-	-	(781)
Electrical Work		LS	-	-	(34)
Mechanical Work		LS	-	-	(60)
Sprinkler Systems		LS	-	-	(19)
<u>Supporting Facilities</u>					76
Demolition		LS	-	-	(76)
Subtotal					970
Contingency (5.00%)					49
Total Contract Cost					1,019
Supervision, Inspection & Overhead (5.50%)					56
Total Request					1,075
Total Request (Rounded)					1,100
Installed Equipment - Other Appropriations					(0)
10. Description of Proposed Construction Remove and replace barricades at five active propellant production buildings. Work includes removal and reinstallation of utilities, process piping, and duct work attached to or passing through the barricades and removal and replacement of attached roofs, floor structures, escape chutes and support framings, the upgrade of electrical wiring and lighting and the diversion of surface drainage away from the barricade foundations.					
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Replacement of two double-revetted and five single-revetted wooden, earth filled explosion protection barricades at Radford Army Ammunition Plant (AAP). This project is the eighth increment of an annual barricade replacement program at this plant. REQUIREMENT: This project is required to provide adequate, safe, explosion protection barricades to enable the plant to operate within existing intraline explosive quantity-distances. CURRENT SITUATION: Most of the barricades at this plant were constructed in 1940-41 and for some time now it has been necessary to do extensive repair work each year to keep them in a structurally safe and sound condition. Because of the accelerating rate of deterioration, repair can no longer keep					

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-----------------------------	---	--------------------------

3. INSTALLATION AND LOCATION

Radford Army Ammunition Plant, Virginia

4. PROJECT TITLE

Replace Explosion Protection Barricades

5. PROJECT NUMBER

99

11. REQUIREMENT: (Continued)

CURRENT SITUATION: (Continued)

pace with requirements. Radford has 240 barricades at explosive production buildings that are required to maintain current and mobilization production schedules. Of this number, 142 can be maintained in satisfactory condition for the next 20 years and projects will be submitted in future program years to replace the remaining unserviceable barricades--the most deteriorated ones first.

IMPACT IF NOT PROVIDED: Without adequate barricades, Radford AAP will not be able to operate within existing explosive quantity-distances.

ADDITIONAL: Explosion protection barricades protect workers, buildings and production equipment and prevent blast propagation to other explosive production buildings in the event of mishap.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

(1) Status:

- (a) Date Design Started JAN 85
- (b) Percent Complete As Of January 1986 95
- (c) Percent Complete As Of October 1986 100
- (d) Date Design Complete MAR 86

(2) Basis:

- (a) Standard or Definitive Design - Yes No
- (b) Where Design Was Most Recently Used NA

(3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)

- (a) Production of Plans and Specifications 66
- (b) All Other Design Costs 7
- (c) Total Cost 73
- (d) Contract 7
- (e) In-house 66

(4) Construction Start APR 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
	None		<u>0</u>
		TOTAL	None

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86			
3. INSTALLATION AND LOCATION Radford Army Ammunition Plant, Virginia				4. PROJECT TITLE Electric Power Center Upgrade				
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 813	7. PROJECT NUMBER (5872225) 97		8. PROJECT COST (\$000) Auth 9,200 Approp 0			
9. COST ESTIMATES								
ITEM					U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility								8,290
Arch/Structural Alterations					LS	-	-	(602)
Plumbing System					LS	-	-	(30)
Heat/Ventilation/Air Cond Sys					LS	-	-	(71)
Building Lighting/Electrical					LS	-	-	(143)
2.4 KV Switchgear					LS	-	-	(2,821)
See Cost Estimates (Continued)								(4,623)
Supporting Facilities								27
Site Work & Utilities					LS	-	-	(27)
Subtotal								8,317
Contingency (5.00%)								416
Total Contract Cost								8,733
Supervision, Inspection & Overhead (5.50%)								480
Total Request								9,213
Total Request (Rounded)								9,200
Installed Equipment - Other Appropriations								(200)
10. Description of Proposed Construction Upgrade plant electrical power center to include: new circuit breaker panels for control center, for turbine-generator output circuits, for 2.4/69KV transformer circuits and for powerhouse auxiliary circuits; new exciters and voltage regulator systems for turbine-generators; KWH meters for all circuits; arch/structural alterations; upgrade of building utility systems; construction of control room for supervising/monitoring/controlling electric power generation and distribution at the center and the 69 KV loop substations.								
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Upgrade the main plant electric power center at Powerhouse No. 1. REQUIREMENT: This project is required to replace aged, obsolete electric power control and distribution equipment to insure power reliability and eliminate safety hazards to operating personnel. Ammunition production is totally dependent upon the proper operation of the power center. The facility was constructed 45 years ago and the oil circuit breakers, switchgear and controls have outlived their useful life and need to be replaced with safe, reliable systems. CURRENT SITUATION: Replacement parts are no longer available for the aged circuit breaker panels and in the past the manufacturer has declined to make								

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-----------------------------	---	--------------------------

3. INSTALLATION AND LOCATION
Radford Army Ammunition Plant, Virginia

4. PROJECT TITLE Electric Power Center Upgrade	5. PROJECT NUMBER 97
--	--------------------------------

9. Cost Estimates (Continued)

Item	U/M	Quantity	Unit Cost	Cost (\$000)
Primary Facility (Continued)				
Tie-Line Demand Control	LS	-	-	144
Relocate 69 KV Relays	LS	-	-	251
2.4 KV Auxiliary Switchgear	LS	-	-	482
Cables for 2.4 KV Controls	LS	-	-	2,241
Loop Station Controls	LS	-	-	191
Temporary Power Source	LS	-	-	104
*SCADA Equipment	LS	-	-	1,077
*SCADA Installation, Powerhouse	LS	-	-	97
*SCADA Install'n, Loop Stations	LS	-	-	36
			Total	4,623

11. REQUIREMENT: (Continued)

CURRENT SITUATION: (Continued)

repairs. When repairs are needed, they are being done by used switchgear dealers and special shops which results in long lead times and costly repairs. The same is true for the power monitoring and the generator excitation equipment. Diligent maintenance, cleaning and functional checking is being done but cannot overcome the unreliability and the hazards of the old and failing equipment.

IMPACT IF NOT PROVIDED: If this project is not provided, the main power center must continue to operate the existing unreliable equipment and the hazards to operating personnel will continue. Failure of the equipment and the resulting loss of power would cause loss of steam production which would in turn cause loss of production of propellants and explosives. Loss of, or severe damage to the powerhouse electrical center would disable the plant for an estimated two (2) months for makeshift repairs and two years for permanent repair.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

- (1) Status:
 - (a) Date Design Started AUG 79
 - (b) Percent Complete As Of January 1986 90
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete JUN 86

- (2) Basis:
 - (a) Standard or Definitive Design - Yes No
 - (b) Where Design Was Most Recently Used NA

- (3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)
 - (a) Production of Plans and Specifications 408

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86																						
3. INSTALLATION AND LOCATION Radford Army Ammunition Plant, Virginia																								
4. PROJECT TITLE Electric Power Center Upgrade	5. PROJECT NUMBER 97																							
<p>12. SUPPLEMENTAL DATA: (Continued)</p> <p>A. Estimated Design Data: (Continued)</p> <table border="0"> <tr> <td>(3) Total Cost: (Continued)</td> <td style="text-align: right;">(\$000)</td> </tr> <tr> <td>(b) All Other Design Costs</td> <td style="text-align: right;">197</td> </tr> <tr> <td>(c) Total Cost</td> <td style="text-align: right;">605</td> </tr> <tr> <td>(d) Contract</td> <td style="text-align: right;">408</td> </tr> <tr> <td>(e) In-house</td> <td style="text-align: right;">197</td> </tr> </table> <p>(4) Construction Start JAN 87 month & year</p> <p>B. Equipment associated with this project which will be provided from other appropriations:</p> <table border="0"> <thead> <tr> <th style="text-align: left;">Equipment Nomenclature</th> <th style="text-align: left;">Procuring Appropriation</th> <th style="text-align: left;">Fiscal Year Appropriated Or Requested</th> <th style="text-align: left;">Cost</th> </tr> </thead> <tbody> <tr> <td></td> <td>None</td> <td></td> <td style="text-align: right;">200</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">TOTAL</td> <td style="text-align: right;">None</td> </tr> </tbody> </table>			(3) Total Cost: (Continued)	(\$000)	(b) All Other Design Costs	197	(c) Total Cost	605	(d) Contract	408	(e) In-house	197	Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost		None		200			TOTAL	None
(3) Total Cost: (Continued)	(\$000)																							
(b) All Other Design Costs	197																							
(c) Total Cost	605																							
(d) Contract	408																							
(e) In-house	197																							
Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost																					
	None		200																					
		TOTAL	None																					

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA		2. DATE FEB 86	
3. INSTALLATION AND LOCATION Radford Army Ammunition Plant, Virginia			4. PROJECT TITLE Expand 155MM Stick Propellant Production		
5. PROGRAM ELEMENT 78011A	6. CATEGORY CODE 226	7. PROJECT NUMBER (5872307) 98	8. PROJECT COST (\$000) Auth 750 Approp 0		
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Primary Facility					468
Alterations, Building 3613		LS	-	-	(314)
Alterations, Building 3722		LS	-	-	(154)
Supporting Facilities					166
Electric Service		LS	-	-	(6)
Water, Sewer & Gas		LS	-	-	(108)
Demolition and Removals		LS	-	-	(52)
Subtotal					634
Contingency (10.00%)					63
Total Contract Cost					697
Supervision, Inspection & Overhead (5.50%)					38
Total Request					735
Total Request (Rounded)					750
Installed Equipment - Other Appropriations					(2,350)
10. Description of Proposed Construction Work includes arch/structural alterations to explosive production buildings, improvements to building mechanical, electrical and fire protection systems, and utilities and electrical services.					
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None					
PROJECT: Alter existing buildings to provide expanded stick propellant production capacity.					
REQUIREMENT: This project is required to provide additional production capability to effect a 225,000 pound per month output of solvent stick propellant.					
CURRENT SITUATION: The present batch process for long stick granulations involves coning the propellant from the press, cutting, boarding the strands, drying, sawing, redrying, sorting and packing the finished propellant. These operations are manual with high operator exposure, high cost (labor intensive), require excessive transportation across the plant, and are not conducive to a high quality, uniform product without the addition of costly quality controls. This project will add two additional automated stick propellant systems to the 12-inch presses in Building 3613 that will automatically cut the sticks for length at the press and tray the sticks for drying, thus eliminating sawing and subsequent redrying.					

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
----------------------	--	-------------------

3. INSTALLATION AND LOCATION
Radford Army Ammunition Plant, Virginia

4. PROJECT TITLE Expand 155MM Stick Propellant Production	5. PROJECT NUMBER 98
--	-------------------------

11. REQUIREMENT: (Continued)
IMPACT IF NOT PROVIDED: If this project is not provided, Radford AAP cannot meet the production requirements for 155mm solvent stick propellant and production workers will continue to be exposed to the higher than necessary risks of personal injury inherent in batch process operations.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

- (1) Status:
- (a) Date Design Started JAN 86
 - (b) Percent Complete As Of January 1986 0
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete MAY 86

- (2) Basis:
- (a) Standard or Definitive Design - Yes ___ No X
 - (b) Where Design Was Most Recently Used NA

- (3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)
- (a) Production of Plans and Specifications 44
 - (b) All Other Design Costs 12
 - (c) Total Cost 56
 - (d) Contract 52
 - (e) In-house 4

- (4) Construction Start JAN 87
month & year

B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Procuring Appropriation	Fiscal Year Appropriated Or Requested	Cost (\$000)
Propellant Prod.Eq	PAA	87	2,350
		TOTAL	2,350

1. COMPONENT ARMY		FY 1987 MILITARY CONSTRUCTION PROJECT DATA			2. DATE FEB 86	
3. INSTALLATION AND LOCATION Radford Army Ammunition Plant, Virginia				4. PROJECT TITLE Steam Supply Line to Horseshoe Area		
5. PROGRAM ELEMENT 78011A		6. CATEGORY CODE 822	7. PROJECT NUMBER (5872134) 96		8. PROJECT COST (\$000) Auth 8,700 Approp 0	
9. COST ESTIMATES						
ITEM				U/M	QUANTITY	COST (\$000)
Primary Facility						6,888
Steam Supply Piping & Insulation				LS	-	(2,984)
Pipe Supports, Rollers, Anchors				LS	-	(1,575)
Mechanical Equipment				LS	-	(241)
Utility Bridge Across New River				LS	-	(1,792)
Pump House				LS	-	(114)
See Cost Estimates (Continued)						(182)
Supporting Facilities						973
Electric Service				LS	-	(372)
Water, Sewer & Gas				LS	-	(7)
Paving, Walks, Curbs & Gutters				LS	-	(494)
Storm Drainage				LS	-	(52)
Site Improvement				LS	-	(48)
Subtotal						7,861
Contingency (5.00%)						393
Total Contract Cost						8,254
Supervision, Inspection & Overhead (5.50%)						454
Total Request						8,708
Total Request (Rounded)						8,700
Installed Equipment - Other Appropriations						(230)
10. Description of Proposed Construction Construct a steam supply tie-line with condensate return from Powerhouse No.1 to the Horseshoe Area steam distribution system. Work includes a pressure reducing station, a desuperheater and supporting equipment, a steel cable suspension bridge to carry the steam line across the New River and the necessary appurtenances and utilities to support the tie-line installation.						
11. REQUIREMENT: None ADEQUATE: None SUBSTANDARD: None PROJECT: Construct a steam supply line with condensate return and required appurtenances. REQUIREMENT: A steam supply line is needed to connect Powerhouse No.1 in the main plant area to the steam distribution system in the Horseshoe Area to satisfy the present and projected peacetime steam requirements for that area. CURRENT SITUATION: At the present time, steam for the Horseshoe Area is produced by that area's steam generating plant (Powerhouse No.2). The present steam demand of 172,000 pounds of steam per hour (pph) exceeds the allowable Powerhouse No.2 output of 150,000 pph. Additionally, two new facilities are under construction in the Horseshoe Area: (1) the continuous automated multi-base explosive production line, and (2) the nitroglycerine-2 modernization. These facilities will also require process steam and thus						

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 86
-----------------------------	---	--------------------------

3. INSTALLATION AND LOCATION
Radford Army Ammunition Plant, Virginia

4. PROJECT TITLE Steam Supply Line to Horseshoe Area	5. PROJECT NUMBER 96
--	--------------------------------

9. Cost Estimates (Continued)

Item	U/M	Quantity	Unit Cost	Cost (\$000)
Primary Facility (Continued)				
Instrumentation	LS	-	-	182
Total				182

11. REQUIREMENT: (Continued)

CURRENT SITUATION: (Continued)

Increase the Horseshoe Area steam deficiency. Powerhouse No.1 in the main plant area has adequate steam producing capacity to provide steam for the entire plant during peacetime and the proposed supply line will make that capacity available to the Horseshoe Area and permit the shutdown and layaway of Powerhouse No.2. An economic study has been made of the cost of this project versus the cost of installing additional boiler capacity at Powerhouse No.2 and the proposed supply line construction came out ahead with annual operating costs lower by more than \$3,250,000. In the event of mobilization, or if peacetime total plant steam demand exceeds the 850,000 pph capacity of Powerhouse No.1, one or more of the six (6) boilers in Powerhouse No.2 would have to be brought back on-line to generate steam.

IMPACT IF NOT PROVIDED: If this project is not provided, this plant will be unable to meet the increase in steam demands of the Horseshoe Area, additional boiler capacity will have to be constructed at Powerhouse No.2, and the significant cost avoidance in annual costs of operation cannot be realized.

ADDITIONAL: An economic study of alternatives has been made, see CURRENT SITUATION above.

12. SUPPLEMENTAL DATA:

A. Estimated Design Data:

- (1) Status:
 - (a) Date Design Started AUG 79
 - (b) Percent Complete As Of January 1986 90
 - (c) Percent Complete As Of October 1986 100
 - (d) Date Design Complete JUN 86

- (2) Basis:
 - (a) Standard or Definitive Design - Yes No
 - (b) Where Design Was Most Recently Used NA

- (3) Total Cost (c) = (a)+(b) or (d)+(e): (\$000)

(a) Production of Plans and Specifications	<u>408</u>
(b) All Other Design Costs	<u>197</u>
(c) Total Cost	<u>605</u>
(d) Contract	<u>408</u>
(e) In-house	<u>197</u>

1. COMPONENT ARMY	FY 1987 MILITARY CONSTRUCTION PROJECT DATA	2. DATE FEB 96
3. INSTALLATION AND LOCATION Radford Army Ammunition Plant, Virginia		
4. PROJECT TITLE Steam Supply Line to Horseshoe Area	5. PROJECT NUMBER 96	
12. SUPPLEMENTAL DATA: (Continued)		
A. Estimated Design Data: (Continued) (4) Construction Start <u>JAN 87</u> month & year		
B. Equipment associated with this project which will be provided from other appropriations:		
Equipment Nomenclature	Procuring Appropriation PAA	Fiscal Year Appropriated Or Requested 87 TOTAL <u>(230)</u> (230)

JUSTIFICATION OF ESTIMATES
DISTRIBUTION

	<u>Copies</u>		<u>Copies</u>		<u>Copies</u>
ASD(C) (3A 862)		ASA(MR) (2E 594)	1	DAMO-FDR (X40459)	
Cost & Audit	2	SALL (2C 638)	39	APA	9
Plans/Systems	1	DACA-BUL (3A 652)	14	MIPA	10
Construction	1	DACA-BUF (3B 663)	10	PWTCV	10
Procurement	2	DACA-ZXA (2B 664)	1	PAA	11
Special Assistant	1	DACA-CAW (2B 685)	1	OPA	13
		DACS-DPZ-A (3C 718)	1	MILCON	9
USDR&E (3D 139)	14	DACS-DPA (3C 747)	2	DALO-ZXA (3D 576)	1
USD (Policy) (4E 830)	1	DACS-DPD (3C 738)	1	DALO-RMI (1D 560)	5
OSD(DOTE) (3D 139)	1	DACS-DPI (3B 747)	1	DALO-SMD (1D 567)	1
ASD(MI&L) (3D 970)	2	DACS-DPM (3C 725)	1	DALO-RMP (1E 565)	1
ASD(ISA) (4B 856)	2	DACS-DM (3C 674)	1	DAEN-ZCP (1E 685)	1
OSD(PA&E) (2E 313)	1	DACS-BMO (3C 635)	1	DAAR-COB (1E 433)	1
ASD(HA) (3E 183)	1	DACS-BMZ-A (AMC Bldg)	1	NGB-ARC-B (2E 413)	2
ASD(LA) (3D 918)	1	DACS-FM (1A 871)	1	DASG-RMB (3D 474)	1
ASD(RA) (3C 980)	1	DAAG-OPC (2B 486)	1	DASG-HCL (2E 525)	1
ASD(FOISR) (2C 757)	2	DAMI-CIS (2D 485)	1	OPA	1
ASD(C3I) (3D 238)	2	DAMI-PBB (2E 477)	1	DAAA-AS (1E 461)	1
JCS (J-5) (X76187)	1	DAIM-PAR (1D 679)	6	ACSC-RDD (3C 363)	1
(SPRAA-PBAD)		APA	6	Air Force (4D 131)	1
OIG, DoD (1E 482)	2	OPA	6	Navy (4C 640)	1
SAUS-OR (2E 614)	1	ASA(IL) (3E 609)	1	DAMA-WS (3E 448)	1
ASA(IL) (3E 609)	1	ASA(FM) (3E 609)	1	APA	1
ASA(FM) (3E 609)	1	ASA(RDA) (2E 672)	1	MIPA	1
ASA(RDA) (2E 672)	1			PWTCV	1

JUSTIFICATION OF ESTIMATES
DISTRIBUTION

<u>Copies</u>		<u>Copies</u>	<u>Copies</u>
DAMA-WSA (3B 454) APA	6	Center of Military History ATTN: DAMH-ZBB/Ms Mauck Room 4227, Pulaski Bldg 20 Massachusetts Avenue Washington, DC 20314	1
DAMA-WSM (3B 455) MIPA	6		The Office of Management & Budget New Executive Office Bldg Room 10001 17th & Pennsylvania Ave, NW Washington, DC 20503
DAMA-WSW (3B 455) PWTCV	7	Commander US Army Materiel Command ATTN: AMCSM-WRM 5001 Eisenhower Avenue Alexandria, VA 22333	3
DAMA-CS (3E 432) PAA OPA	1 1		The Government Accounting Ofc Room 5132 441 G Street, NW Washington, DC 20548
DAMA-CSS (3D 422) OPA	4	Commander US Army Training & Doctrine Command ATTN: ATCD-EP Fort Monroe, VA 23651	1
DAMA-CSC (3D 433) OPA	3		DODIG, for Audit ATTN: ASP (R Leach) 1300 Wilson Blvd Arlington, VA 22209
DAMA-CSM (3C 444) PAA	10	Arms Control & Disarmament Agency ATTN: NWC-DPA, Room 5741 320 21st Street, NW Washington, DC 20451	2
DAMA-CSZ (3C 444) (MC Liaison)	1		
DAMA-PPC (3E 443)	5		
DAMA-PP (3E 374)	1		
DAMA-RA (3E 360)	1		

NOTE: Provide any changes, additions, deletions to the above list to: HQDA (DAMA-PPP-B),
Washington, DC 20310-0665, or Commercial: (202)695-6401, AUTOVON: 225-6401.

END

DTIC

4-86