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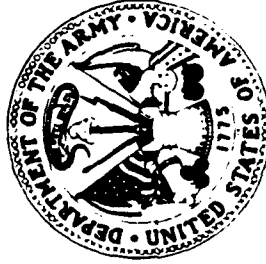
DTIC ENE P000

# DEPARTMENT OF THE ARMY

JUSTIFICATION OF ESTIMATES FOR FY 1990/FY 1991 BIENNIAL BUDGET

## SUBMITTED TO CONGRESS

JANUARY 1989



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3 FEB 1989

AD-A204 044

AMMUNITION PROCUREMENT, ARMY PROGRAMS

AIRCRAFT	MISSILES
AMMUNITION	OTHER
WEAPONS & TRACKED COMBAT VEHICLES	

DEPARTMENT OF THE ARMY  
PROCUREMENT OF AMMUNITION, ARMY

JUSTIFICATION OF ESTIMATES FOR FISCAL YEARS 1990/1991

TABLE OF CONTENTS	PAGE NO.
Section 1: Budget Appendix Extract .....	4 - 1
Section 2: Budget Activity Justifications .....	4 - 21
Activity 1 - Ammunition .....	4 - 23
Activity 2 - Ammunition Production Base Support.....	4 - 41
Section 3: Comparison of Program Requirements and Financing .....	4 - 49

PROCUREMENT OF AMMUNITION, ARMY

Section 1:

Budget Appendix Extract

Appropriation Language

FY 1990/1991 Program and Financing Schedule

FY 1990/1991 Object Classification Schedule

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





Procurement of Ammunition, Army  
Program and Financing (in Thousands of dollars) SUMMARY

Budget Plan (amounts for PROCUREMENT  
actions programmed)

Identification code	21-2034-0-1-05 L	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition	1,839,264	1,733,834	1,561,443	1,322,823
00.0201	Ammunition production base support	434,328	271,361	174,257	219,677
00.9101	Total direct program	2,273,592	2,005,195	1,735,700	1,542,300
01.0101	Reimbursable program	25,674	38,800	28,800	28,800
10.0001	Total	2,299,266	2,043,995	1,764,500	1,571,100
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	-20,012	-27,548	-17,548	-17,548
13.0001	Trust funds(-)	-5,311	-9,700	-9,700	-9,700
14.0001	Non-Federal sources(-)	-351	-1,552	-1,552	-1,552
17.0001	Recovery of prior year obligations Unobligated balance available, start of year:				
21.4002	For completion of prior year budget plans	-7,200			
21.4003	Available to finance new budget plans	-9,443			
21.4007	Reprogramming from/to prior year budget plans				
24.4002	Unobligated balance available, end of year:				
25.0001	For completion of prior year budget plans Unobligated balance lapsing	9,443			
39.0001	Budget authority	2,266,392	2,005,195	1,735,700	1,542,300
Budget authority:					
40.0001	Appropriation	2,273,592	2,012,970	1,735,700	1,542,300
40.0017	Appropriation rescinded (unobligated balance)	-7,200			
41.0001	Transferred to other accounts(-)		-8,000		
42.0001	Transferred from other accounts		225		
43.0001	Appropriation (adjusted)	2,266,392	2,005,195	1,735,700	1,542,300
Relation of obligations to outlays:					
71.0001	Obligations incurred, net				
72.4001	Obligated balance, start of year				
74.4001	Obligated balance, end of year				
77.0001	Adjustments in expired accounts				
78.0001	Adjustments in unexpired accounts				
90.0001	Outlays				

Procurement of Ammunition, Army  
Program and Financing (in Thousands of dollars) SUMMARY

Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition	1,885,748	1,781,246	1,551,238	1,301,862
00.0201	Ammunition production base support	534,717	246,177	205,997	257,966
00.9101	Total direct program	2,420,465	2,027,423	1,757,235	1,559,828
01.0101	Reimbursable program	19,370	47,594	28,800	28,800
10.0001	Total	2,439,835	2,075,017	1,786,035	1,588,628
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	-18,718	-27,548	-17,548	-17,548
13.0001	Trust funds(-)	-5,208	-9,700	-9,700	-9,700
14.0001	Non-Federal sources(-)	-351	-1,552	-1,552	-1,552
17.0001	Recovery of prior year obligations	-100,745			
21.4002	Unobligated balance available, start of year:	-250,488	-199,823	-168,801	-147,268
21.4003	For completion of prior year budget plans	-7,200			
21.4007	Available to finance new budget plans				
21.4007	Reprogramming from/to prior year budget plans				
24.4002	Unobligated balance available, end of year:	199,823	168,801	147,268	129,738
25.0001	For completion of prior year budget plans	9,443			
25.0001	Unobligated balance lapsing				
39.0001	Budget authority	2,266,392	2,005,195	1,735,700	1,542,300
Budget authority:					
40.0001	Appropriation	2,273,592	2,012,970	1,735,700	1,542,300
40.0017	Appropriation rescinded (unobligated balance)	-7,200			
41.0001	Transferred to other accounts(-)		-8,000		
42.0001	Transferred from other accounts		225		
43.0001	Appropriation (adjusted)	2,266,392	2,005,195	1,735,700	1,542,300
Relation of obligations to outlays:					
71.0001	Obligations incurred, net	2,415,558	2,036,217	1,757,235	1,559,828
72.4001	Obligated balance, start of year	3,353,435	3,409,721	3,366,638	3,154,673
74.4001	Obligated balance, end of year	-3,409,721	-3,366,638	-3,154,673	-2,991,101
77.0001	Adjustments in expired accounts	-8,651			
78.0001	Adjustments in unexpired accounts	-100,745			
90.0001	Outlays	2,249,878	2,079,300	1,969,200	1,723,400

Procurement of Ammunition, Army  
Object Classification (in Thousands of dollars) SUMMARY

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Direct obligations:					
Other services:					
125.004	Other	632,193	165,032	123,825	124,507
126.001	Supplies and materials	1,786,100	1,862,391	1,633,410	1,435,321
131.001	Equipment	2,172			
199.001	Total Direct obligations	2,420,465	2,027,423	1,757,235	1,559,828
Reimbursable obligations:					
Other services:					
225.004	Other	5,059	13,351	13,351	13,351
226.001	Supplies and materials	14,294	34,243	15,449	15,449
231.001	Equipment	17			
299.001	Total Reimbursable obligations	19,370	47,594	28,800	28,800
999.901	Total obligations	2,439,835	2,075,017	1,786,035	1,588,628

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1988

Budget Plan (amounts for PROCUREMENT  
 actions programmed)

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition				
00.0201	Ammunition production base support				
00.9101	Total direct program				
01.0101	Reimbursable program				
10.0001	Total				
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)				
13.0001	Trust funds(-)				
17.0001	Recovery of prior year obligations				
21.4002	Unobligated balance available, start of year:				
	For completion of prior year budget plans				
21.4007	Reprogramming from/to prior year budget plans				
25.0001	Unobligated balance lapsing				
39.0001	Budget authority				
				-9,443	
				9,443	

Procurement of Ammunition, Army  
Program and Financing (in Thousands of dollars) FISCAL YEAR 1986

Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition	106,368			
00.0201	Ammunition production base support	109,287			
00.9101	Total direct program	215,655			
01.0101	Reimbursable program	425			
10.0001	Total	216,080			
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	77			
13.0001	Trust funds(-)	92			
17.0001	Recovery of prior year obligations	-83,765			
21.4002	Unobligated balance available, start of year:				
21.4007	For completion of prior year budget plans	-141,927			
25.0001	Reprogramming from/to prior year budget plans				
	Unobligated balance lapsing	9,443			
39.0001	Budget authority				

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1987

Identification code	21-2034-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)		
		1988 actual	1989 est.	1990 est.
Program by activities:				
Direct program:				
00.0101	Ammunition			
00.0201	Ammunition production base support			
00.9101	Total direct program			
01.0101	Reimbursable program			
10.0001	Total			
Financing:				
Offsetting collections from:				
11.0001	Federal funds(-)			
13.0001	Trust funds(-)			
17.0001	Recovery of prior year obligations			
21.4002	Unobligated balance available, start of year:			
	For completion of prior year budget plans			
21.4003	Available to finance new budget plans			
24.4002	Unobligated balance available, end of year:			
	For completion of prior year budget plans			
40.0017	Budget authority (Appropriation rescinded) (			

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1987  
 Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition	35,329	34,242		
00.0201	Ammunition production base support	36,234	16,442		
00.9101	Total direct program	71,563	50,684		
01.0101	Reimbursable program		2,065		
10.0001	Total	71,563	52,749		
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	1,217			
13.0001	Trust funds(-)	-16,980			
17.0001	Recovery of prior year obligations				
21.4002	Unobligated balance available, start of year:				
21.4003	For completion of prior year budget plans		-52,749		
21.4003	Available to finance new budget plans	-108,561			
24.4002	Unobligated balance available, end of year:	-7,200			
24.4002	For completion of prior year budget plans	52,749			
40.0017	Budget authority (Appropriation rescinded) (	-7,200			

Procurement of Ammunition, Army  
Program and Financing (in Thousands of dollars) FISCAL YEAR 1988

Identification code	21-2034-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)	
		1988 actual	1990 est. 1991 est.
<b>Program by activities:</b>			
Direct program:			
00.0101	Ammunition	1,839,264	
00.0201	Ammunition production base support	434,328	
00.9101	Total direct program	2,273,592	
01.0101	Reimbursable program	25,874	
10.0001	Total	2,299,266	
<b>Financing:</b>			
Offsetting collections from:			
11.0001	Federal funds(-)	-20,012	
13.0001	Trust funds(-)	-5,311	
14.0001	Non-Federal sources(-)	-351	
21.4002	Unobligated balance available, start of year: For completion of prior year budget plans		
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans		
40.0001	Budget authority (Appropriation)	2,273,592	

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1988  
 Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition	1,744,051	48,705	46,508	
00.0201	Ammunition production base support	389,196	34,237	10,895	
00.9101	Total direct program	2,133,247	82,942	57,403	
01.0101	Reimbursable program	18,945	6,728		
10.0001	Total	2,152,192	89,671	57,403	
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)	-20,012			
13.0001	Trust funds(-)	-5,311			
14.0001	Non-Federal sources(-)	-351			
21.4002	Unobligated balance available, start of year: For completion of prior year budget plans		-147,074	-57,403	
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans	147,074	57,403		
40.0001	Budget authority (Appropriation)	2,273,592			

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1989

Identification code	21-2034-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)		
		1988 actual	1989 est.	1990 est. 1991 est.
Program by activities:				
Direct program:				
00.0101	Ammunition		1,733,834	
00.0201	Ammunition production base support		271,361	
00.9101	Total direct program		2,005,195	
01.0101	Reimbursable program		38,800	
10.0001	Total		2,043,995	
Financing:				
Offsetting collections from:				
11.0001	Federal funds(-)		-27,548	
13.0001	Trust funds(-)		-9,700	
14.0001	Non-Federal sources(-)		-1,552	
21.4002	Unobligated balance available, start of year: For completion of prior year budget plans			
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans			
39.0001	Budget authority		2,005,195	
Budget authority:				
40.0001	Appropriation		2,012,970	
41.0001	Transferred to other accounts(-)		-8,000	
42.0001	Transferred from other accounts		225	
43.0001	Appropriation (adjusted)		2,005,195	

Procurement of Ammunition, Army  
Program and Financing (in Thousands of dollars) FISCAL YEAR 1989

Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition		1,698,299	29,707	5,828
00.0201	Ammunition production base support		195,498	30,591	45,272
00.9101	Total direct program		1,893,797	60,298	51,100
01.0101	Reimbursable program		38,800		
10.0001	Total		1,932,597	60,298	51,100
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)		-27,548		
13.0001	Trust funds(-)		-9,700		
14.0001	Non-Federal sources(-)		-1,552		
21.4002	Unobligated balance available, start of year: For completion of prior year budget plans			-111,398	-51,100
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans		111,398	51,100	
39.0001	Budget authority		2,005,195		
Budget authority:					
40.0001	Appropriation		2,012,970		
41.0001	Transferred to other accounts(-)		-8,000		
42.0001	Transferred from other accounts		225		
43.0001	Appropriation (adjusted)		2,005,195		

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1990

Identification code	21-2034-0-1-051	Budget Plan (amounts for PROCUREMENT actions programmed)		
		1988 actual	1989 est.	1991 est.
Program by activities:				
Direct program:				
00.0101	Ammunition		1,561,443	
00.0201	Ammunition production base support		174,257	
00.9101	Total direct program		1,735,700	
01.0101	Reimbursable program		28,800	
10.0001	Total		1,764,500	
Financing:				
Offsetting collections from:				
11.0001	Federal funds(-)		-17,548	
13.0001	Trust funds(-)		-9,700	
14.0001	Non-Federal sources(-)		-1,552	
21.4002	Unobligated balance available, start of year:			
	For completion of prior year budget plans			
24.4002	Unobligated balance available, end of year:			
	For completion of prior year budget plans			
40.0001	Budget authority (Appropriation)		1,735,700	

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1990  
 Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition			1,475,023	46,777
00.0201	Ammunition production base support			164,511	5,276
00.9101	Total direct program			1,639,534	52,053
01.0101	Reimbursable program			28,800	
10.0001	Total			1,668,334	52,053
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)			-17,548	
13.0001	Trust funds(-)			-9,700	
14.0001	Non-Federal sources(-)			-1,552	
21.4002	Unobligated balance available, start of year: For completion of prior year budget plans			96,166	-96,166
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans				44,113
40.0001	Budget authority (Appropriation)			1,735,700	

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1991

Identification code	21-2034-0-1-051	Budget Plan (amounts for PROCUREMENT actions programed)		
		1988 actual	1989 est.	1990 est. 1991 est.
<b>Program by activities:</b>				
Direct program:				
00.0101	Ammunition			1,322,623
00.0201	Ammunition production base support			219,677
00.9101	Total direct program			1,542,300
01.0101	Reimbursable program			28,800
10.0001	Total			1,571,100
<b>Financing:</b>				
Offsetting collections from:				
11.0001	Federal funds(-)			-17,548
13.0001	Trust funds(-)			-9,700
14.0001	Non-Federal sources(-)			-1,552
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans			
40.0001	Budget authority (Appropriation)			1,542,300

Procurement of Ammunition, Army  
 Program and Financing (in Thousands of dollars) FISCAL YEAR 1991  
 Obligations

Identification code	21-2034-0-1-051	1988 actual	1989 est.	1990 est.	1991 est.
Program by activities:					
Direct program:					
00.0101	Ammunition				1,249,257
00.0201	Ammunition production base support				207,418
00.9101	Total direct program				1,456,675
01.0101	Reimbursable program				28,800
10.0001	Total				1,485,475
Financing:					
Offsetting collections from:					
11.0001	Federal funds(-)				-17,548
13.0001	Trust funds(-)				-9,700
14.0001	Non-Federal sources(-)				-1,552
24.4002	Unobligated balance available, end of year: For completion of prior year budget plans				85,625
40.0001	Budget authority (Appropriation)				1,542,300



PROCUREMENT OF AMMUNITION, ARMY

Section 2:

Budget Activity Justification

Activity 1 - Ammunition

Activity 2 - Ammunition Production Base Support



Department of the Army  
 President's Budget  
 JUSTIFICATION

Appropriation  
 PROCUREMENT OF AMMUNITION, ARMY

FY 1990/1991  
 Budget

Budget Program (\$ Thousands)

Activity 1 - Ammunition	Actual FY 1988	Estimate FY 1989	Estimate FY 1990	Estimate FY 1991
Direct Budget Plan	\$1,839,264	\$1,733,834	\$1,561,443	\$1,322,623

Part 1 - PURPOSE AND SCOPE

The FY 1990/1991 President's Budget contains an ammunition program that provides for worldwide training consumption, near-term readiness and combat sustainability, and the acquisition of war reserve stocks. Families of ammunition included in the request are artillery, mortar, tank, small arms, rockets, mines, countermines, propelling charges, and other ammunition items. A substantial portion of the request is for recently developed tank rounds and improved artillery ammunition.

Part 2 - JUSTIFICATION OF FUNDS REQUESTED

The FY 1990/1991 program provides for worldwide training consumption and replaces losses to inventory through FY 1990/1991 funded delivery periods, maintains U.S. Army readiness, buys selected items for war reserves through the FY 1994 authorized acquisition objective, and maintains the active ammunition production base at a reduced level. The following table depicts the ammunition program by major categories.

	Ammunition Categorization (\$ Millions)			
	FY 1988	FY 1989	FY 1990	FY 1991
Special	146.3	127.2	88.1	101.7
Small Arms	174.6	215.5	166.9	209.7
Mortars	115.9	75.7	34.0	69.3
Tank	357.7	342.2	365.0	375.3
Artillery	619.0	525.9	423.8	195.9
Artillery Fuzes	53.1	39.1	68.5	70.1
Mines	127.8	138.8	138.4	81.6
Rockets	120.5	135.8	144.3	95.6
Other	52.3	38.2	31.1	31.7
Miscellaneous	72.0	95.4	101.3	91.7
<b>Total</b>	<b>1839.3</b>	<b>1733.8</b>	<b>1561.4</b>	<b>1322.6</b>

Procurement new starts in FY 1990 include the Cartridge 25mm XM919 Armor Piercing Fin Stabilized Discarding Sabot-Tracer for the Bradley Fighting Vehicle System; the Cartridge 105mm XM913 High Explosive Rocket Assisted (HERA) for the M102 Howitzer; the Fuze, Artillery, Electronic Time M767; the Ranger Anti-Armor Weapon System (RAAWS) and the Hydra 70 Smoke Rocket. The FY 1991 procurement new starts are enhanced anti-armor tank rounds and the Time Delay Firing Device.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
SPECIAL AMMUNITION (FY1990 - \$88.1 Million; FY1991 - \$101.7 Million)			
	*	*	(Detailed breakout classified)
SMALL/MEDIUM CALIBER AMMUNITION (FY1990 - \$166.9 Million; FY1991 - \$209.7 Million)			
5.56mm Cartridges	41.7	56.9	The FY1990/FY1991 requests include funding for 5.56mm M193 Ball, M196 Tracer, M200 Blank, M862 Plastic, M855 Ball and M856 Tracer ammunition for the M16 and M16-A2 rifles, and M231 Firing Port Weapon mounted on the Bradley Infantry Fighting Vehicle. The FY1990/1991 requests build war reserves and support training requirements.
7.62mm Cartridges	18.8	21.6	The FY1990/FY1991 requests include funding for 7.62mm Ball and Tracer, M852 Special Match and M82 Blank for use in the M60, M73, M219, and M240 Machine Guns. The FY 1990 and FY 1991 procurements support annual peacetime training and build war reserves.
Cal .50 Cartridges	1.5	1.9	The FY1990/FY1991 requests include funding for the Caliber .50 rounds for use with the M2 and M3 Machine Guns. The procurements of 1,453,000 rounds in FY1990 and 2,041,000 rounds in FY1991 support annual peacetime training.
20mm Cartridges	24.5	26.5	The FY1990/FY1991 requests include funding for M220 and M55A2 Target Practice and the M940 Multi-Purpose Trace Self-Destruct cartridges for use in the Cobra gun and VULCAN Air Defense System. Procurements support war reserves and training requirements.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
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SMALL/MEDIUM CALIBER AMMUNITION (CONT.)

25mm Cartridges	23.5	68.5	The FY1990/FY1991 requests include funding for High-Explosive Incendiary Tracer, Armor Piercing Training, and Armor Piercing Fin Stabilized Discarding Sabot-Tracer (APFSDS-T) ammunition for use in the 25mm M242 Automatic gun which is mounted on the M2/M3 Bradley Fighting Vehicle System. First procurement of the APFSDS-T will be FY1990.
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30mm Cartridges	10.0	8.8	The FY1990/FY1991 requests include funding for the Target Practice cartridge for use in the M230 30mm Lightweight gun for the AH-64 Helicopter. The FY1990 request is for 998,000 cartridges and the FY1991 request is for 877,000 cartridges.
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40mm Cartridges	46.9	25.5	The FY1990/FY1991 requests include funding for 40mm High-Explosive Dual Purpose (HEDP), smoke and training rounds used with the MK19 machine gun and M203 grenade launcher attached to the M15/M16A1 rifle.
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MORTAR AMMUNITION (FY1990 - \$34.0 Million; FY1991 - \$69.3 Million)

60mm (LWCMS) Cartridges	22.7	8.8	The FY1990/FY1991 procurements support war reserves and training requirements for the M722 Smoke, M720 High Explosive, and M840 1/10 Practice rounds for the Light-Weight Company Mortar System in support of the Army's Light Infantry Division.
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ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
<b>MORTAR AMMUNITION (CONT.)</b>			
4.2 Inch Cartridges	11.3	0.0	The FY1990 procurement of 99,000 4.2 Inch M329 cartridges supports war reserves and training requirements. The 4.2 In. Mortar System will continue to be the Army's heavy Mortar System pending prove out and phased fielding of the 120mm Mortar System.
120mm Mortar Cartridges	0.0	60.5	The FY1991 request includes funding for the XM933/XM934 High-Explosive and XM929 Smoke cartridges for use with the 120mm Mortar System.
<b>TANK AMMUNITION (FY1990 - \$365.0 Million; FY1991 - \$375.3 Million)</b>			
105mm Tank Ammunition	122.8	111.5	The FY1990/FY1991 requests include the Armor Piercing Fin Stabilized Discarding Sabot-Tracer (APFSDS-T) cartridge to support war reserve objectives and the Discarding Sabot-Target Practice (DS-TP) and the Target Practice with Tracer (TP-T) cartridges for training requirements. The FY1990 request is for 353,000 105mm DS-TP cartridges in the amount of \$55.9 million; 164,000 105mm TP-T cartridges in the amount \$22.9 million; and \$44.0 million to procure 105mm APFSDS-T cartridges. The FY1991 request includes funding for 112,000 TP-T cartridges in the amount of \$15.7 million; 275,000 105mm DS-TP in the amount of \$43.7 million; and \$52.2 million for classified items. The FY1990/1991 requests builds war reserves of modern tank ammunition to support the 105mm tank fleet and enhance the Army's ability to conduct realistic tank gunnery training in support of our readiness objectives.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
120mm Tank Ammunition	227.0	252.4	The FY1990/FY1991 requests include Anti-Armor Tank rounds, Target Practice-Tracer (TP-T) rounds, and Target Practice Cone-Stabilized Discarding Sabot-Tracer (TPCSDS-T) rounds. The FY1990 request is for 30,000 120mm TP-T cartridges in the amount of \$28.5 million; 91,000 120mm TPCSDS-T cartridges in the amount of \$63.5 million; and \$135.0 million for classified items. The FY1991 request is for 34,000 120mm TP-T cartridges in the amount of \$32.6 million; 91,000 120mm TPCSDS-T cartridges in the amount of \$61.7 million; and \$158.1 million for classified items. The FY1990/1991 requests are required to support the fielding of the M1A1 tank with ammunition capable of defeating threat armor and providing tank gunnery training with the M1A1 tank in support of our readiness objectives.
35mm Subcal for Tank	15.2	11.4	The FY1990/FY1991 requests support tank training requirements of 146,000 rounds per year in support of M1A1 tank crew proficiency.
ARTILLERY AMMUNITION (FY1990 - \$423.8 Million, FY1991 - \$195.9 Million)			
75mm Blank	1.8	0.0	The FY1990 request funds 82,000 M337A1 blank rounds at \$1.8 million. This round is used for Presidential and VIP salutes.
105mm High Explosive Rocket Assisted (HERA) Cartridge	15.9	20.9	The FY1990/FY1991 requests support the acquisition of a more lethal, extended range artillery round for use with the howitzer deployed with Light Infantry Divisions. The FY1990 and FY1991 procurements of 27,000 and 43,000 cartridges respectively, build war reserve stockpiles.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
ARTILLERY AMMUNITION (CONT.)			
155mm ADAM/RAAMS	\$109.5	0.0	<p>The FY1990 request funds 14,000 155mm ADAM-L M731 projectiles in the amount of \$62.1 million and 35,000, 155mm RAAM-L M741 projectiles in the amount of \$47.4 million. The Area Denial Artillery Munition (ADAM) and Remote Anti-Armor Mine Systems (RAAMS) projectiles are artillery delivered mines, which provide the field commander with a quick-reaction defensive or offensive mine system to oppose dismounted enemy forces or mounted armor attacks. The ADAM and RAAMS projectiles are deployed together in order to lay a mine field in accordance with the mine/barrier emplacement strategy. The ADAM projectile contains 36 anti-personnel mines, while the RAAMS projectile contains nine anti-armor mines. After projectile firing, the mines are ejected over the target area. Upon reaching the ground, individual ADAM mines eject trip wires and function when disturbed. The RAAMS mines function when the presence of an armored vehicle is detected or when disturbed. Both mines incorporate a factory set self-destruct feature, which allows for movement of friendly troops through the mine area after a predetermined period. Both ADAM and RAAMS have two projectile model numbers to distinguish between available self-destruct time options. Funding is required to support war reserve objectives.</p>

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
ARTILLERY AMMUNITION (CONT.)			
155mm Training, M804	0.0	17.7	The FY1991 request supports acquisition of the low noise M804 artillery training projectile, required to support training in U.S. Army Europe (USAREUR) and U.S. training areas with environmental noise limitations. The FY1991 request is for 119,000 projectiles.
155mm Baseburner	178.7	89.7	The FY1990/FY1991 requests support funding to meet war reserve sustainability objectives. This Improved Conventional Munition (ICM) projectile is a dual purpose (DP) anti-armor/anti-personnel round. The round differs from the basic M483 ICM round in that it has extended range capabilities. The FY1990/FY1991 requests are for 240,000 and 120,000 projectiles, respectively.
155mm Propelling Charges	117.9	67.6	The FY1990/FY1991 requests balance the 155mm propelling charges to the inventories of 155mm projectiles procured in support of war reserve and training requirements. The FY1990 program funds 220,000 M3 Green Bag Propelling Charges at \$11.7 million and 203,000 M203 Red Bag Propelling Charges at \$106.2 million. The FY 1991 program funds 129,000 M203 Red Bag Propelling Charges at \$67.6 million.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
ARTILLERY FUZES (FY1990 - \$68.5 Million; FY1991 - \$70.1 Million)			
Fuze, Artillery, Proximity	0.0	31.1	The FY1991 request funds 190,000 M732A2 Proximity fuzes. The M732A2 is the product improvement version of the M732, which makes it compatible for use with rocket assisted projectiles.
Fuze, Artillery Point Detonating	13.7	0.0	The FY1990 budget request funds 1,001,000 M739 artillery Proximity Fuzes. This fuze supports 4.2-inch mortar, 105mm, 155mm, and 8 in. howitzer high explosive projectiles and cartridges for war reserves and training requirements. Programmed buys will replenish war reserve levels previously used to support training requirements.
Fuze, Artillery, Electronic Time (ET) and Electronic Time Superquick (ETSQ)	54.8	39.0	The FY1990/FY1991 requests support testing, training, and war reserve requirements in quantities sufficient to balance with procurements of associated projectiles. Electronic time fuzes are used with all existing and developmental projectiles in the 105mm, 155mm and 8 in. Improved Conventional Munitions (ICM) family.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
ROCKETS (FY1990 - \$144.3 Million; FY1991 - \$95.6 Million)			
HYDRA 70 Rockets	80.6	85.5	The FY1990/FY1991 requests include Hydra 70 High Explosive (HE) and practice rounds to support war reserves and training requirements. The Hydra 70 provides both attack and self-defense capabilities for Apache and modernized Cobra helicopters against personnel, materiel, armor and enemy helicopters. These programmed buys continue the shift from the older HYDRA 70 HE with a point detonating fuze for training to the newer Hydra 70 M274 Signature Practice rocket. The latter is preferred for most training and is required on instrumented ranges.
Lightweight Multi-Purpose Weapon System	60.0	3.9	The FY1990/FY1991 requests support funding to meet war reserve objectives. The Lightweight Multi-Purpose Weapon System (AT-4) is a shoulder-fired, tactical munition designed for multiple roles against materiel and lightly armored vehicles. The FY1990 request funds 66,000 AT-4 weapon systems at \$56.1 million. Additionally, the FY1990 request of \$3.9 million and the FY1991 request of \$3.9 million funds 5,859,000 and 5,834,000 trainers, respectively. This round was transitioned to on shore procurement with the FY1987 procurement.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
<b>ROCKETS (CONT.)</b>			
Ranger, Anti-Armor/Anti-Personnel Weapon System (RAAWS)	3.7	6.2	The FY1990/FY1991 requests support funding of the Ranger, Anti-Armor/Anti-Personnel Weapon System which consists of several rounds of High Explosive Anti-Tank (HEAT), High Explosive (HE), High Explosive Dual Purpose (HEDP), Smoke, Illuminating, Target Practice, and Sub-Caliber training ammunition. Procurements are needed for the 75th Ranger Regiment.
<b>MINES/COUNTERMINES (FY1990 - \$138.4 Million; FY1991 - \$81.6 Million)</b>			
Mines/Countermines	138.4	81.6	The FY1990/FY1991 requests support funding to meet war reserve objectives. Included are the Modular Pack Mine System (MOPMS) and the Volcano, a helicopter or ground dispensed mine system. The Volcano mine system is the center piece of the Army mine program. All are scatterable mine systems and contain both antipersonnel and antitank mines. Also included are the inert mines to support training with the Volcano dispensing system. In addition, the FY1990 request includes the Mine Clearing Line Charge (MICLIC) system and the associated 5-inch rocket motor, a device designed to clear paths through enemy mine fields and obstacles.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
OTHER (FY1990, \$31.1 Million; FY1991, \$31.7 Million)			
Grenades, All Types	12.6	3.0	The FY1990/FY 1991 requests include practice, smoke and fragmentation grenades.
Signals, All Types	5.0	8.6	The FY1990/FY1991 requests buy colored smoke signals and smoke pots for both war reserves and training.
Simulators, All Types	5.3	7.7	The FY1990/FY1991 requests support training requirements for various simulators. These devices lend battlefield realism to training exercises without the associated cost, safety, and environmental impacts of live-fire training.
Demolition Munitions	0.0	10.5	The FY1991 request procures numerous demolition munitions to support training and range clearance requirements. This line includes demolition charges and other cratering charges, kits, blasting caps, igniters, and blasting time fuzes.
Cartridge, 165mm Combat Engineer Vehicle-Target Practice	8.1	0.0	The FY1990 request funds 19,000 rounds to support annual peacetime training requirements. This round is designed for training use only and simulates in flight characteristics of its high explosive service round.
Time Delay Firing Device	0.0	1.9	The FY 1991 request funds 10,000 state-of-the art timing devices for use by the Special Operations Forces. This device replaces the M1 family of devices which utilize technology developed in the 1950's.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE	FY 1990	FY 1991	REMARKS
MISCELLANEOUS (FY1990 - \$101.3 Million; FY1991 - \$91.7 Million)			
Nitroguanadine	22.8	28.9	The FY1990/FY1991 requests continue production to meet Army requirements and meet economic production at Sunflower Army Ammunition Plant, which is the only U.S. source for this critical ingredient. Nitroguanidine is a colorless, crystalline compound required in production of the triple-base propellant used in extended-range propelling charges for artillery and tank ammunition.
Ammo Components	25.6	21.7	The FY1990/FY1991 requests are required for major and minor maintenance and renovation of field stocks.
Other Non-Hardware	52.9	41.2	The FY1990/FY1991 requests support equipment unique to ammunition production/depot operations, a Host Nation Support agreement, spares and repair parts, and other small ammunition programs.



FY 1990/FY 1991 WAR RESERVE AMMUNITION, TRAINING AMMUNITION AND NON-HARDWARE PROGRAMS  
(\$ MILLIONS)

	FY 1990	FY 1991
War Reserve Ammunition	1036.4	768.1
Training Ammunition:	456.2	492.4
Non-Hardware Programs:	68.8	62.1
Total	1561.4	1322.6

In order to support worldwide training consumption and increase U.S. Army readiness, the following ammunition is being procured:

TRAINING AMMUNITION	FY 1990		FY 1991	
	QUANTITY (THOUSANDS)	DOLLARS (MILLIONS)	QUANTITY (THOUSANDS)	DOLLARS (MILLIONS)
Cartridge, 5.56mm, Ball, M193	52,220	7.3	-	-
Cartridge, 5.56mm, Tracer Clip	444	.1	492	.1
Cartridge, 5.56mm, Blank M200	24,660	2.6	125,836	13.3
Cartridge, 5.56mm, Ball M16-A2	94,985	20.0	154,409	32.1
Cartridge, 5.56mm, Tracer M16-A2	-	-	11,833	3.3
Cartridge, 5.56mm, Ball M855 Linked	3,544	.9	2,719	.7
Cartridge, 5.56mm, Plastic M862	9,899	3.4	9,407	3.1
Cartridge, 7.62mm, Blank Linked	-	-	10,141	2.5
Cartridge, 7.62mm, 4 Ball/Tracer Linked	61,161	17.9	61,777	18.2
Cartridge, 7.62mm, Special Match	1,429	.5	1,515	.5
Cartridge, Caliber .38 Special Ball	-	-	504	.1
Cartridge, 9mm Ball	7,094	1.1	7,094	1.0
Cartridge, .45 Match Ball	4,500	.6	2,887	.4
Cartridge, Caliber .50 Ball Linked	1,453	1.4	2,041	2.0
Opposing Force Ammunition	-	2.0	-	2.0
Cartridge, 25mm HEI-T, M792	-	-	38	.7
Cartridge, 25mm AP Training, M910	758	14.4	1,675	30.6
Cartridge, 20mm Linked 4 TP/1TP-T	5	.1	1,002	3.1
Cartridge, 20mm TP-T Linked	4,172	15.0	4,137	15.0
Cartridge, 30mm TP Linked	998	10.0	877	8.8
Cartridge, 40mm Dummy F/MK19	7	.1	28	.3
Cartridge, 40mm Practice, M781	-	-	531	.8

FY 1991

FY 1990

TRAINING AMMUNITION (CONT.)	QUANTITY (THOUSANDS)	DOLLARS (MILLIONS)	QUANTITY (THOUSANDS)	DOLLARS (MILLIONS)
Cartridge, 40mm Red Smoke Marker	6	.1	6	.1
Cartridge, 40mm Green Smoke	11	.2	11	.2
Cartridge, 40mm Yellow Smoke	11	.2	11	.2
Cartridge, 40mm White Star Cluster	65	1.3	65	1.3
Cartridge, 40mm TP F/MK19	1,922	25.4	1,353	17.1
Cartridge, 105mm DS-TP	353	55.9	275	43.7
Cartridge, 105mm TP-T	164	22.9	112	15.7
Cartridge, 60mm HE	7	.7	-	-
Cartridge, 60mm Smoke WP	1	.2	1	.2
Cartridge, 60mm Practice	20	6.4	20	5.0
Cartridge, 4.2 In. HE w/Fuze	99	11.3	-	-
Cartridge, 120mm Mortar HE, XM934	-	-	13	4.6
Cartridge, 120mm Mortar HE XM933	-	-	30	9.0
Cartridge, 120mm Mortar, Smoke	-	-	6	2.7
Cartridge, 120mm TP-T M831	30	28.5	34	32.6
Cartridge, 120mm TPCSDS-T, M865	91	63.5	91	61.7
Cartridge, 75mm Blank	82	1.8	-	-
Cartridge, 165mm Target Practice	19	8.1	-	-
Charge, Propelling Green Bag	220	11.7	-	-
Projectile, 155mm Training, M804	-	-	119	17.7
Fuze, Electronic Time Super Quick (ETSQ)	-	-	104	10.2
Fuze, Proximity, M732/M732A1	-	-	38	6.2
Fuze, Hand Grenade, Practice	2,168	1.9	2,614	2.4
Grenade, Hand White Smoke	-	-	42	.6
Light Weight Multi Purpose Trainer	5,859	3.9	5,834	3.9
Light Weight Multi Purpose Weapon	12	10.2	-	-
Rocket, Training Practice 35mm	-	-	308	4.0
Hydra 70 Rocket, HE/RS	-	-	20	10.1
Hydra 70 Rocket, Smoke	2	1.2	2	1.2
Hydra 70 Rocket, MPSM Prac M267	11	3.9	11	6.0
Hydra 70 Rocket, HE/PD	25	8.8	25	8.7
Hydra 70 Rocket, Signature Practice	167	51.2	150	46.4
Hydra 70 Rocket, Illuminating MK66	20	13.6	19	12.9
Smoke Pot, Floating	-	-	2	.5

TRAINING AMMUNITION (CONT.)	FY 1990		FY 1991	
	QUANTITY (THOUSANDS)	DOLLARS (MILLIONS)	QUANTITY (THOUSANDS)	DOLLARS (MILLIONS)
Signal Illuminating Ground Red Star	4	.1	-	-
Signal Illuminating Ground White Star	33	.9	68	1.8
Signal Illuminating Green Star	24	.7	20	.6
Simulator, Proj Airburst M74	157	2.4	142	2.2
Simulator, Flash Artillery M21	1,092	2.7	1101	2.6
Simulator, Flash Artillery M24	-	-	1224	.7
Simulator, Booby Trap Flash M1	34	.1	70	.2
Simulator, Booby Trap Illuminating	53	.1	53	.1
Simulator, Booby Trap Whistling	32	.1	86	.2
Simulator, Hand Grenade	-	-	255	1.6
Flare Surface, Trip M49 Series	10	.2	10	.2
Charge Demo Block Comp C-4 1 1/4 lb	-	-	263	1.1
Cap, Blasting M6 Special Electric	-	-	223	.6
Fuze Blasting Time M700	-	-	1389	.2
Igniter, Fuse Blasting Time M6	-	-	170	.4
Energy Cartridge Anti-Personnel	21	.1	35	.1
Energy Cartridge Anti-Tank Prac	18	.1	20	.1
Cartridge, Subcaliber 35mm F/Tank	192	15.2	139	11.4
Canister, Mine Practice	-	-	3	1.6
Line Charge Inert M68A2 (MIGLIC)	135	1.4	138	1.4
Rocket, Mtr MK22 F/MIGLIC	456	1.8	456	1.8



Department of the Army  
 President's Budget  
 JUSTIFICATION

Appropriation  
 PROCUREMENT OF AMMUNITION, ARMY

FY 1990/1991  
 Budget

Budget Program (\$ Thousands)

	Actual FY 1988	Estimate FY 1989	Estimate FY 1990	Estimate FY 1991
Activity 2 - Ammunition Production Base Support				
Direct Budget Plan	\$434,328	\$271,361	\$174,257	\$219,677

Part 1 - PURPOSE AND SCOPE

The FY 1990/1991 President's Budget contains an ammunition production base support program that provides for the support of plants in active production and required for mobilization; the establishment of initial-production facilities; modernization, and expansion of production capability for ammunition; modernization of Jefferson Proving Ground; layaway of industrial plants and equipment, which is the procedure associated with placing a previously active production facility or line into inactive status; and components for prove-out, which refers to the procedures associated with demonstrating that a production facility or line is capable of manufacturing the ammunition item.

Part 2 - JUSTIFICATION OF FUNDS REQUESTED

	Production Base Support Categorization (\$ Millions)			
	FY1988	FY1989	FY1990	FY1991
Provision of Industrial Facilities (PIF)	143.9	164.2	125.3	181.6
Production Support and Equipment Replacement (PS&ER)	(36.3)	(42.0)	(42.5)	(44.5)
Initial Production Facilities (IPF)	(6.8)	(0.0)	(13.9)	(7.3)
Modernization (MOD)	(55.2)	(74.3)	(33.4)	(29.6)
Expansion (EXP)	(45.6)	(47.9)	(35.5)	(100.1)
Jefferson Proving Ground Modernization		1.0	2.0	
Layaway of Industrial Facilities	19.4	19.6	40.0	25.5
Prove-out of Production Facilities	8.3	14.3	7.0	12.6
RDX Facility	262.7	72.3		
<b>Ammunition Production Base Support Total</b>	<b>434.3</b>	<b>271.4</b>	<b>174.3</b>	<b>219.7</b>

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE/REMARKS	FY 1990	FY 1991
PROVISION OF INDUSTRIAL FACILITIES	125.3	181.6

Funds requested for Provision of Industrial Facilities provide industrial capabilities for manufacturing new or existing ammunition. The major efforts are divided among initial production capability for new items entering the inventory, expansion of existing capacity to meet either peacetime or mobilization requirements, and modernization of existing facilities to adjust to new technology and changing ammunition requirements. The majority of funds requested are concentrated in modernization and expansion efforts. In FY 1990, \$82.8 million (including construction) is requested for modernization, expansion, and initial production facilities. In FY 1991, \$ 137.0 million is requested for this effort. In addition, \$42.5 million in FY 1990 and \$44.5 million in FY 1991 are requested for production support and equipment replacement.

The FY 1990 request of \$125.3 million contains the following projects:

To correct security deficiencies at three Army Ammunition Plants (AAP), \$4.7 million is requested. This amount will provide for replacement of a portion of the perimeter fence at Longhorn AAP (located at Marshall, Texas); provide a secure voice radio system for security and fire control activities; upgrade guard gates and replace a portion of the production area fencing at Louisiana AAP, Shreveport, Louisiana; and harden 118 shiphouses through the use of 3/4 inch plywood on walls and rafters at Indiana AAP (located at Charlestown, Indiana).

To correct safety problems at five Army Ammunition Plants (AAP), \$9.0 million is requested. At Holston AAP, Kingsport, Tennessee, electrical distribution deficiencies will be corrected; at Lake City AAP, Independence, Missouri, upgrade in the primer manufacturing areas and improved fire detection and suppression will be provided. At Iowa AAP, Middletown, Iowa, remote drilling of explosive fuze-well cavities will be provided; new construction at Louisiana AAP, Shreveport, Louisiana will eliminate existing safety hazards, and at Milan AAP, Milan, Tennessee, construction of a new magazine will remove safety deficiencies.

In an effort to meet environmental laws and regulations, \$6.0 million is requested to restore land and equipment that have been damaged, contaminated, or disturbed by activities at the ammunition plants and to modify/expand production operations and processes to meet the requirements of various environmental laws and regulations.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

FY 1990                      FY 1991

TYPE/REMARKS

PROVISION OF INDUSTRIAL FACILITIES (CONT.)

To correct safety deficiencies at Lone Star AAP, Texarkana, Texas, \$1.0 million is requested. This amount will improve compressed air availability for detonator loading applications, provide for a data encryption system, closed circuit television, equipment guards, gas valves, overhead power lines, and upgrade of a sprinkler system.

To provide a facility that complies with safety regulations for the unpacking, sampling, testing, retesting and repacking for determining the aging and chemical stability of the materials before being loaded, \$3.1 million is requested. The facility will be located at Indiana AAP, Charlestown, Indiana.

To update and install lightning protection systems at shipping houses, magazines, igloos and crating sheds, \$1.2 million is also requested at Indiana AAP.

At Louisiana AAP, Shreveport, Louisiana, \$1.8 million is requested to correct ongoing environmental problems which include replacing transformers containing carcinogens and modernizing the chemical stripping facility by replacing leaking tanks.

To eliminate feathering, probing, and top-off procedures now required for TNT melt pour operations at Iowa AAP, \$ .8 million is required. This effort will result in reduced costs and improved safety.

To install ten emergency generators to prevent contamination of the sanitary and industrial waste treatment facilities at Lake City AAP (located at Independence, Missouri), \$ .2 Million is requested.

Engineering design funds of \$23.3 million are required for initiation and/or continuation of construction criteria, equipment, and concept, final and process design; design related studies; and other design related work necessary to assure efficient and timely execution of current and future facility projects.

For the second phase of the High Melt Explosive (HMX) MUSALL process design, \$12.1 million is requested. The location is proposed for Longhorn AAP, Marshall, Texas.

Funding in the amount of \$42.5 million is requested for the necessary production support and equipment replacement at active ammunition plants.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

FY 1990                      FY 1991

TYPE/REMARKS

PROVISION OF INDUSTRIAL FACILITIES (CONT.)

The FY 1991 request of \$181.6 Million contains the following projects:

\$13.0 million is requested for the final year of the three-year effort to design a one line, 500,000 pounds per month HMX (MUSALL process) facility and \$64.2 million for the first year of a five-year effort to build the facility, scheduled for Longhorn AAP.

To correct safety deficiencies, \$6.2 million is requested in FY 1991. This amount will provide for modernization of the primer assembly process and plant-wide upgrading of the lightning protection system at Lake City AAP. In addition, at Radford AAP (Radford, Virginia) the existing two-wire electrical system will be upgraded; at Indiana AAP, a deluge system will be provided on two load lines; and at Joliet AAP (located at Joliet, Illinois) grounding the railroad tracks will be accomplished.

At Holston AAP, Kingsport, Tennessee, \$4.8 million is requested to construct a two-lane bridge across the Holston River to the explosive storage area where all on-plant storage is located. The existing bridge, constructed in 1943, has deteriorated to a point of being unsafe and structurally incapable of carrying a fully loaded trailer.

The main steam lines at Holston AAP are over 40 years old and deteriorated. \$2.2 million is requested to relocate approximately 400 feet of line and replace supports, traps, valves, insulate the headers, and demolish/rehabilitate the collateral air lines.

To enhance personnel safety in the pyrotechnic manufacturing area at Lone Star and Longhorn Army Ammunition Plants, \$12.8 million is requested. This project will provide for the installation of remotely operated mixers; granulators and dryers for pyrotechnic compositions; remote handling equipment; and an improved fire suppression system.

Engineering design funds in the amount of \$23.4 million are required for initiation and/or construction criteria, equipment, and concept; final design, process design, design related studies; and other design related work necessary to assure efficient and timely execution of facility projects.

Also included in the FY 1991 request is \$44.5 million for the necessary production support and equipment replacement for plants in active production.

ITEM BREAKOUT, FY 1990/1991  
(\$ Millions)

TYPE/REMARKS	FY 1990	FY 1991
<b>PROVISION OF INDUSTRIAL FACILITIES (CONT.)</b>		
Funds are requested in both FY 1990 and FY 1991 for the following projects: -----		
In FY 1990 \$3.3 million and in FY 1991 \$3.6 million are requested for hazardous waste disposal at Army Ammunition installations.		
For facilitization of the 105/120mm AEI Tank Program \$13.9 million in FY 1990 and \$7.3 million in FY 1991 are requested.		
<b>LAYAWAY OF INDUSTRIAL FACILITIES</b>	40.0	25.5
The \$40.0 million is requested for layaway in FY 1990 and \$25.5 in FY 1991 for the protection and preservation of equipment and facilities no longer required for active production, but which must be retained for future peacetime or mobilization production needs. Included are funds for the layaway of Mississippi Army Ammunition Plant in FY 1990, and the layaway of one 155mm artillery projectile metal parts line and one load, assemble and pack line at facilities to be determined in FY 1991.		
<b>COMPONENTS FOR PROVE-OUT</b>	7.0	12.6

This line provides for the prove-out and acceptance of prior year modernization, expansion and initial production facilities. Funds are used to assure that the facility is capable of producing an acceptable end product, manufacturer warranties are met, and the facility is capable of producing at the designed rate.

The FY 1990 program includes prove-out of the 155mm M864 line at Scranton Army Ammunition Plant, the 105mm XM900E1 line at a commercial site, and the 16 inch/50 Navy HE Projectile line at McAlester AAP.

The FY 1991 prove-out program includes NAC/SAC deficiency correction at Badger Army Ammunition Plant (AAP), Composition A line modernization at Holston AAP and CASBL deficiency correction at Radford AAP.

ITEM BREAKOUT, FY 1990/1991  
 (\$ Millions)

TYPE/REMARKS	FY 1990	FY 1991
JEFFERSON PROVING GROUND MODERNIZATION	2.0	0.0

This program will modernize and upgrade existing test instrumentation to conduct production acceptance testing of Army ammunition components. This effort will replace obsolete, unreliable, or economically unrepairable test equipment and instrumentation currently in use. This will result in more accurate reliable data and faster turn around of the production items being tested. This will also allow for earlier release of product, avoiding the requirement for additional storage facilities, and reduce waste and scrap resulting from stopping faulty production. This effort is to be done in fully funded, independent phases and is expected to continue through FY 1991, at an estimated total cost of \$10.0 million. Jefferson Proving Ground is on the proposed base closure list for Department of Defense installations. If the list is approved, the mission performed at Jefferson Proving Ground will be transferred to Yuma Proving Ground and the modernization funding will be required there.



PROCUREMENT AMMUNITION, ARMY

Section 3

Comparison of Programing Requirements and Financing

Comparison of FY 1989 program requirements as reflected in the amended FY 1988/1989 Biennial Budget with FY 1989 program requirements as shown in the FY 1990/1991 Biennial Budget.

Comparison of FY 1989 financing as reflected in the amended FY 1988/1989 Biennial Budget with FY 1989 financing as shown in the FY 1990/1991 Biennial Budget.

Comparison of FY 1988 program requirements as reflected in the amended FY 1988/1989 Biennial Budget with FY 1988 program requirements as shown in the FY 1990/1991 Biennial Budget.

Comparison of FY 1988 financing as reflected in the amended FY 1988/1989 Biennial Budget with FY 1988 financing as shown in the FY 1990/1991 Biennial Budget.



COMPARISON OF FY 1989 PROGRAM REQUIREMENTS  
AS REFLECTED IN THE AMENDED FY 1988/1989 BIENNIAL BUDGET  
WITH THE FY 1989 PROGRAM REQUIREMENTS AS SHOWN  
IN THE FY 1990/1991 BIENNIAL BUDGET  
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

Appropriation	FY 1989 Requirements Per Amended FY 1988/1989 Biennial Budget	FY 1989 Requirements Per FY 1990/1991 Biennial Budget	Increase (+) or Decrease (-)
Procurement Ammunition, Army	1,799,950	1,733,834	-66,116
Activity 1 - Ammunition			
Activity 2 - Modification of Ammunition Production Base Support	207,850	271,361	+63,511
TOTAL	2,007,800	2,005,195	-2,605

EXPLANATION BY ACTIVITY

Activity 1 - Ammunition - Net decrease resulted from Congressional action on Small Arms (+\$13,400), 4.2 in Mortar (-\$23,735), 120mm Mortar (+\$33,500), Ctg 105mm (-\$14,893), Ctg 105mm (+\$30,906), Projectile 155mm (-\$15,000), Classified Project (-\$20,100), Mines (-\$19,300), Hydra Rocket (-\$8,977) and War Reserve Stock pile (-\$35,000), and reprogramming of inflation savings (-\$6,917).

Activity 2 - Ammunition Production Base Support - The net increase is the result of Congressional action on Provisions of Industrial Facilities (-\$7,931) and RDX Facility (+\$72,300) and reprogramming of inflation savings (-\$858).

COMPARISON OF FY 1989 FINANCING AS REFLECTED  
 IN THE AMENDED FY 1988/1989 BIENNIAL BUDGET WITH FY 1989 FINANCING  
 AS SHOWN IN FY 1990/1991 BIENNIAL BUDGET

(In Thousands of Dollars)

Appropriation	FY 1989 Financing Per Amended FY 1988/1989 Biennial Budget	FY 1989 Financing Per FY 1990/1991 Biennial Budget	FY 1989 Increase (+) or Decrease (-)
Procurement of Ammunition, Army			
<hr/>			
Program Requirements (Total)	2,046,600	2,043,995	-2,605
Program Requirements (Service Account)	(2,007,800)	(2,005,195)	(-2,605)
Program Requirements (Reimbursable)	(38,800)	(38,800)	( 0)
Less:			
Anticipated reimbursements	-38,800	-38,800	0
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BUDGET AUTHORITY			
Appropriation	2,007,800	2,005,195	-2,605

EXPLANATION:  
 Financing reduced in accordance with appropriated program adjustments.

COMPARISON OF FY 1988 FINANCING AS REFLECTED  
IN THE AMENDED FY 1988/1989 BIENNIAL BUDGET WITH FY 1989 FINANCING  
AS SHOWN IN FY 1990/1991 BIENNIAL BUDGET

	(In Thousands of Dollars)		
	FY 1988	FY 1988	FY 1988
Appropriation	Financing Per	Financing Per	Increase (+)
Procurement of Ammunition, Army	Amended	FY 1990/1991	or
	FY 1988/1989	Biennial Budget	Decrease (-)
	Biennial Budget		
Program Requirements (Total)	2,315,492	2,299,266	-16,226
Program Requirements (Service Account)	(2,273,592)	(2,273,592)	0
Program Requirements (Reimbursable)	(41,900)	(25,674)	(-16,226)
Less:			
Anticipated reimbursements	-41,900	-25,674	+16,226
Unobligated balance available from prior year to finance new budget plans	-7,200	-7,200	0
Reprogramming from prior year budget plans		-9,443	-9,443
Add:			
Unobligated balance lapsing		+9,443	+9,443

**BUDGET AUTHORITY**

Appropriation

2,266,392

2,266,392

0

**EXPLANATION:**

The reimbursement program (offsetting collections) decreased because orders from customers did not materialize as anticipated.

COMPARISON OF FY 1988 PROGRAM REQUIREMENTS  
AS REFLECTED IN THE AMENDED FY 1988/1989 BIENNIAL BUDGET  
WITH THE FY 1988 PROGRAM REQUIREMENTS AS SHOWN  
IN THE FY 1990/1991 BIENNIAL BUDGET  
SUMMARY OF REQUIREMENTS (In Thousands of Dollars)

	FY 1988 Requirements Per Amended FY 1988/1989 Biennial Budget	FY 1988 Requirements Per FY 1990/1991 Biennial Budget	FY 1988 Increase (+) or Decrease (-)
Appropriation			
Procurement Ammunition, Army			
Activity 1 - Ammunition	1,845,650	1,839,264	-6,386
Activity 2 - Ammunition			
Production Base Support	427,942	434,328	+6,386
TOTAL	<u>2,273,592</u>	<u>2,273,592</u>	<u>0</u>

EXPLANATION BY ACTIVITY

The reprogramming to Production Base Support was made to comply with Congressional direction to provide \$8,850 for maintenance and equipment preservation at Badger Army Ammunition Plant. Funds from two cancelled programs, the 40mm CS and the Hydra 70 MPSW Practice, were used to partially offset the requirement.