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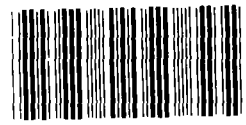
Report to the Chairmen, Subcommittees on Defense, Senate and House Committees on Appropriations

October 1987

DEFENSE BUDGET

Potential Reductions to DOD's Fiscal Year 1988 Ammunition Budget



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National Security and
International Affairs Division

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October 27, 1987

The Honorable John C. Stennis
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Bill Chappell, Jr.
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

As you requested, we reviewed the military services' justifications for their fiscal year 1988 budget requests for ammunition items and the Army's request for ammunition production base support. In March 1987 we provided your offices with some observations and questions on various ammunition line items and production base support projects for which fiscal year 1988 funds had been requested. In June 1987 we briefed your representatives on the results of our review. This report includes the information provided at the June 1987 briefing and provides the final results of our review.

The President's fiscal year 1988 defense budget request totals about $3.6 billion for ammunition items and $168.5 million for ammunition production facilities. We believe the request for the ammunition production base is adequately justified. However, about $577.6 million of the $3.6 billion request for ammunition items is inadequately justified and should not be funded. This letter provides an overview of our findings; appendix I describes the objective, scope, and methodology of our work; and appendixes II through V provide supporting details.

Army Ammunition Program

The Army's $2 billion request for ammunition is overstated by $320.9 million for the following reasons:

- $86.8 million is for eight developmental items that will not be ready for procurement in fiscal year 1988.
- $80.8 million is for two items for which production schedules are overly optimistic.
- $69.4 million is for four items that have unresolved component problems.
- $40.4 million is for two items with excessively long procurement lead times.

- $18.2 million is for two items for which the total program quantities will not be needed to meet fiscal year 1988 delivery schedules.
- $25.3 million is for four items for which the program quantities are greater than needed.

Navy Ammunition Program

The Navy's $566.3 million request for ammunition is overstated by $63.1 million for the following reasons:

- $37.6 million is for three items with continuing production problems.
- $11.9 million is for three items with prematurely programmed procurements.
- $5.5 million is for an item whose unit cost is overstated.
- $4.6 million is for one item for which a lower cost, alternative component will probably be used.
- $3.5 million is for three items whose inventories would exceed requirements.

Air Force Ammunition Program

The Air Force's $643.4 million request for ammunition is overstated by $189.1 million for the following reasons:

- $169.4 million is for two items whose total program quantities will not be needed to meet fiscal year 1988 delivery schedules.
- $7.7 million is for two items with procurement lead times that are excessive.
- $12 million is for one item for which inventory would exceed needs.

Marine Corps Ammunition Program

The Marine Corps' $410.9 million request for ammunition is overstated by $4.5 million because a new fuze will not be ready in time for procurement in fiscal year 1988.

Recommendations

We recommend the Senate and House Committees on Appropriations reduce the Department of Defense's fiscal year 1988 budget request for ammunition by the following amounts for the overstated items in each service's request:

- $320.9 million for 22 items in the Army's request,
- $63.1 million for 11 items in the Navy's request,
- $189.1 million for 5 items in the Air Force's request, and
- $4.5 million for 1 item in the Marine Corps' request.

These recommended reductions are delineated by budget line number in appendixes VI, VII, VIII, and IX.

We discussed the results of our work with officials of the Office of the Secretary of Defense, the Army, the Navy, the Air Force, and the Marine Corps. They agreed with some of our recommended adjustments and identified items for which funding could be increased to offset our recommended reductions. We have included, but not evaluated, information on their proposed funding increases in this report. As requested, we did not obtain official agency comments on this report.

We are sending copies of the report to the Secretaries of Defense, the Army, the Navy, and the Air Force; the Commandant of the Marine Corps; and other interested parties.

for Bill W. Thurman

Frank C. Conahan
Assistant Comptroller General

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Tables

Abbreviations

AAP	Army Ammunition Plant
ADAM	area denial artillery munitions
CEM	combined effects munition
CIWS	close-in weapon system
DS-TP	discarding sabot-target practice
FOT&E	follow-on test and evaluation
GAO	General Accounting Office
GEMSS	ground emplaced mine scattering system
HEI	high explosive incendiary
HEI-T	high explosive incendiary-tracer
HERA	high explosive, rocket assisted
MICLIC	mine clearing line charge
MOPMS	modular pack mine system
RAAMS	remote antiarmor mine system

Introduction

As shown in table I.1, the military services' fiscal year 1988 ammunition appropriation request was about $3.8 billion, including the Army's $168.5 million request for production base support.

Table I.1: Military Services' Fiscal Year 1988 Ammunition Appropriation Request

Dollars in millions

Military service	Amount
Army	$2,194 3
Navy	566 3
Air Force	643 4
Marine Corps	410 9
Total	**$3,814.9**

The services justified their ammunition requests by stating these funds were needed to meet training needs and build the war reserve stockpile. The Army's production base support funds are intended to enhance ammunition production capacity by modernizing existing facilities, building new ones, and protecting and preserving those no longer required for active production.

Objective, Scope, and Methodology

The Chairmen, Subcommittees on Defense, Senate and House Committees on Appropriations, asked us to assess the services' justification for the $3.8 billion fiscal year 1988 request for the ammunition and production base support programs.

We evaluated the ammunition requests by reviewing such factors as ammunition requirements, inventory levels, production problems, item quality, testing and development, funded program status, unit costs, and field malfunctions to identify those items with potential problems. We also analyzed production schedules, production capacities, past production, procurement lead times, and component delivery to determine whether the programs could be executed efficiently and economically. We assessed projected receipt and loss data to ensure that inventories would not greatly exceed objectives. We also determined whether a reasonable balance existed among programs for related ammunition end items (e.g., propelling charges, projectiles, and fuzes). We did not verify the accuracy of all service-provided data, such as inventory levels, training consumption, and cost estimates, but we did compare the services' information with data from prior years to ascertain its overall reasonableness.

To assess projects for enhancing the production base, we determined whether designs were complete, whether items would be ready for production when the projects were complete, whether all reasonable alternatives had been considered, and whether the need for the projects was firmly established.

To evaluate the justifications for specific ammunition items and projects, we interviewed ammunition management and procurement officials and analyzed documents, such as briefings, status reports, production problem meeting minutes, and budget support data, from the services at the following locations:

- Army, Navy, and Air Force Headquarters, Washington, D.C.;
- U.S. Army Armament, Munitions and Chemical Command, Rock Island, Illinois;
- U.S. Army Research and Development Center and Production Base Modernization Activity, Picatinny Arsenal, New Jersey;
- U.S. Army Missile Command, Redstone Arsenal, Alabama;
- Army Materiel Systems Analysis Activity, Aberdeen Proving Grounds, Maryland;
- Army Field Artillery School, Ft. Sill, Oklahoma;
- Project Office, Tank Main Armament Systems, Picatinny Arsenal, New Jersey;
- Project Office, Cannon Artillery Weapons Systems, Picatinny Arsenal, New Jersey;
- Product Office, Mines, Countermines and Demolitions, Picatinny Arsenal, New Jersey;
- Project Office, Mortars, Picatinny Arsenal, New Jersey;
- Louisiana Army Ammunition Plant, Shreveport, Louisiana;
- Naval Air Systems Command, Washington, D.C.;
- Naval Sea Systems Command, Washington, D.C.;
- Ships Parts Control Center, Mechanicsburg, Pennsylvania;
- Operational Test and Evaluation Force, Norfolk, Virginia;
- Marine Corps Headquarters, Rosslyn, Virginia;
- U.S. Air Force Systems Command, Aeronautical Division, Wright-Patterson Air Force Base, Ohio;
- U.S. Air Force Systems Command, Armament Division, Eglin Air Force Base, Florida; and
- Ogden Air Logistics Center, Hill Air Force Base, Utah.

We discussed a draft of this report with Office of the Secretary of Defense officials and with program officials of the Army's Office of the Assistant Secretary for Research, Development, and Acquisition; the

Navy's Office of the Deputy Chief of Naval Operations for Logistics; the Air Force's Office of the Deputy Chief of Staff for Logistics and Engineering; and the Marine Corps' Office of Deputy Chief of Staff for Installations and Logistics. We made changes to the report, where appropriate, to reflect the views of these officials. As requested, we did not obtain official agency comments on this report.

We conducted our review from October 1986 to May 1987 in accordance with generally accepted government auditing standards.

Army Ammunition Program

The Army requested about $2 billion for ammunition and $168.5 million for production base support in its fiscal year 1988 ammunition program request. We reviewed the justification for 74 ammunition items, representing $1.7 billion, or about 85 percent of the request, and 9 production base projects, representing $66.2 million, or about 39.3 percent of the request. Appendix VI shows the budget lines we reviewed and our recommended reductions. We believe $320.9 million is not needed in fiscal year 1988 for 22 ammunition items for the following reasons:

- $86.8 million involves eight developmental items that will not be type-classified (approved for troop use) in time for inclusion in the fiscal year 1988 budget.
- $80.8 million is for two items with overly optimistic production schedules.
- $69.4 million is for four items with unresolved component problems.
- $40.4 million is for two items with excessively long procurement lead times.
- $18.2 million is for two items for which total program quantities will not be delivered during the fiscal year 1988 funded delivery period.
- $25.3 million is for four items for which program quantities are greater than needed.

Type-Classification Delayed

Type-classification identifies items that are acceptable for their intended missions and for introduction into the inventory. Army policy states that, in general, an item to be procured in a particular fiscal year should be type-classified no later than the end of the first quarter of that fiscal year. Therefore, December 1987 is the type-classification deadline for an item to be included in the fiscal year 1988 program.

We believe the Army's $86.8 million request for eight items should not be funded because they will not be type-classified in time for fiscal year 1988 procurement. These items and the amount requested for each are as follows:

- five types of 120-mm mortar cartridges for $47.6 million,
- proximity fuzes for $24.2 million,
- 105-mm high explosive, rocket assisted (HERA) cartridges for $7.9 million, and
- Hydra 70 smoke rockets for $7.1 million.

120-mm Mortar Cartridges

The Army requested $47.6 million to procure five different types of enhanced 120-mm mortar cartridges, as shown in table II.1. We believe the request is premature because the 120-mm mortar program has been delayed and type-classification for the cartridges has been postponed until fiscal year 1990.

Table II.1: Army's Fiscal Year 1988 120-mm Mortar Ammunition Request

Dollars in millions

Type of cartridge	Quantity	Cost
High explosive (XM934)	34,000	$12.2
High explosive (XM933)	14,000	4 4
Illuminating (XM930)	39,000	19.0
Smoke (XM929)	20,000	9 9
1/10 Training	16,000	2 1
Total	**123,000**	**$47.6**

The fiscal year 1987 budget of $34.5 million is for interim 120-mm mortar cartridges. According to Army officials, these cartridges, being procured from a foreign source for use until the enhanced ammunition is available, do not meet the Army's requirements.

Because existing 120-mm mortar cartridges provided by two competing contractors failed to meet the Army's requirements, the Army plans to develop enhanced cartridges. However, selection of a development contractor has been delayed until February 1988 because of the need to retest the mortar weapon that will use the new cartridges. The Army's program schedule shows that type-classification for limited production of the enhanced 120-mm mortar cartridges is scheduled for November 1989, the first quarter of fiscal year 1990. Consequently, funding for a fiscal year 1988 program is unnecessary.

Officials from the project manager's office agreed that funds were not needed in fiscal year 1988 for procurement of the enhanced 120-mm mortar cartridges. Army Headquarters representatives said the Army could use the $47.6 million for additional interim 120-mm mortar cartridges. The interim foreign cartridges, however, do not meet the Army's requirements.

Proximity Fuze

The Army requested $24.2 million for 136,000 M732E2 proximity fuzes. We believe the request is premature because type-classification will be too late for fiscal year 1988 procurement.

Documentation supporting the Army's request indicates that the M732E2 fuze will be type-classified by December 1987. However, the Army has rescheduled type-classification for the third quarter of fiscal year 1988. The primary reason for the delay is that the fuze failed when fired with the 8-inch rocket assisted projectile in hot temperature conditions. Because type-classification will not be completed by the end of the first quarter of this fiscal year, the fuze should not be funded in fiscal year 1988.

Army officials agreed that, since type-classification for the M732E2 fuze has been rescheduled for the third quarter of fiscal year 1988, this program should not be funded in fiscal year 1988.

105-mm HERA Cartridge

The Army's $7.9 million request for 15,000 XM913 cartridges is premature because the planned type-classification has been rescheduled to the fourth quarter of fiscal year 1988.

The Army is developing the XM913 105-mm high explosive rocket assisted cartridge for use with the new M119 105-mm lightweight howitzer. The XM913 cartridge is designed to have a significantly increased range and lethality over the currently fielded 105-mm rocket assisted cartridge.

Type-classification for limited production, originally scheduled for December 1987, has been postponed until September 1988 because of delays in awarding the development contract for test prototypes, termination of a contract for the cartridge's warhead, difficulties in scheduling test time at the Army's Yuma Proving Ground, and an overly optimistic program schedule.

The M119 project manager and Army Headquarters representatives agreed with our recommendation to eliminate the $7.9 million fiscal year 1988 budget request because of the postponement of type-classification.

Hydra 70 Smoke Rocket

The Army requested $7.1 million for 13,000 XM264 Hydra 70 smoke rockets. This request is premature because type-classification is scheduled too late for procurement in fiscal year 1988.

According to documentation submitted in support of the current budget request, type-classification is scheduled for the second quarter of fiscal year 1988, which would be too late for fiscal year 1988 procurement

under the Army's policy. An Army engineer with the Hydra program estimated that type-classification may be delayed even further to December 1988. He attributed the slippage in type-classification to delays in receiving developmental funding.

Army officials agreed that type-classification would be too late for fiscal year 1988 procurement and that the program should not be funded.

Optimistic Production Schedules

According to Army budget guidance, ammunition program quantities in a particular fiscal year budget request should be delivered within its fiscal year funded delivery period.[1] Quantities not deliverable within the funded delivery period (plus any lead time necessary) should be programmed for a later fiscal year.

We believe the Army's $80.8 million request for two items should not be funded because production plans are overly optimistic. Specifically,

- $70.1 million is for 104,000 155-mm basebleed projectiles for which there are no production facilities, and
- $10.7 million is for 1,116 modular pack mine system (MOPMS) dispensers for which initial production is still not planned for the near future.

155-mm Basebleed Projectile

The Army's request includes $70.1 million for producing 104,000 155-mm XM864 basebleed projectiles from January 1989 through December 1989. The request is premature because necessary facilities for producing component parts are not currently available and it is doubtful that they will be available by January 1989—15 months after the beginning of fiscal year 1988. The Army had planned to award a contract for a production facility at the Scranton Army Ammunition Plant (AAP) in April 1987, but the contract was delayed due to a bid protest and was not awarded until August 1987.

The Army requested fiscal year 1988 funds to establish two new production facilities—in addition to the Scranton AAP—to produce the requested fiscal year 1988 quantity. However, since the budget submission, the Army is reconsidering its plans for the two new facilities. The two facilities and the amounts requested for each are as follows:

[1]The "fiscal year funded delivery period" is the time (usually 12 months) during which quantities in a particular fiscal year program are delivered. It begins the last month of the procurement lead time interval and ends the month when deliveries for a fiscal year program are completed.

- $12.2 million was requested for production lines at the Louisiana AAP for the production of the projectile's primary metal part components. However, the Army may now procure two of the four planned metal parts from private industry.
- $7.1 million was requested for an initial production facility in private industry to produce the XM864 projectile's base burner assembly. However, the company may be willing to build a facility using its own capital.

The Army's fiscal year 1988 request for projectiles and production facilities to produce such projectiles indicates a firm plan for these facilities. However, as discussed above, the contract for the Scranton facility was delayed, and the Army has not yet decided how to acquire the other two new facilities. Therefore, we believe funding should be deferred to give the Army time to ensure the facilities will be in place for production. Funding from the $31 million fiscal year 1987 program can be used for initial production on these facilities.

Army Headquarters representatives said they are monitoring the program very closely and are confident that the new production facilities will be ready to produce projectiles for the fiscal year 1988 program within the funded delivery period. However, we believe enough uncertainty appears to exist to warrant deferring the $70.1 million in funding until fiscal year 1989.

Modular Pack Mine System

The Army requested $62.5 million for 6,498 MOPMS dispensers in fiscal year 1988. Although the Army received a total of $45.3 million for approximately 3,900 MOPMS dispensers in fiscal years 1985 and 1987, none have been produced, and production is not scheduled to begin until January 1989. The Army cites a 28-month initial procurement lead time and a 25-month reorder lead time for the MOPMS system. Given the 25-month reorder lead time, delivery of the requested fiscal year 1988 quantity would not be completed until September 1990. Because there has yet to be any proven production of this new, complicated item, we believe the fiscal year 1988 budget should be limited to the quantity needed to support production at the minimum sustaining production rate through the fiscal year 1988 funded delivery period. Therefore, we believe the request should be reduced by 1,116 MOPMS dispensers, or $10.7 million.

Army officials said the fiscal year 1988 program is realistic and on-time deliveries are expected. However, we believe that, due to the complexity

of the item and the lack of any component deliveries or proven production, a program at the minimum rate seems appropriate for fiscal year 1988. In addition, planned procurement is scheduled for about 3,600 MOPMS units in fiscal year 1990 and 4,600 units in fiscal year 1991, quantities that are insufficient to sustain production at the minimum rate. Deferring part of the Army's fiscal year 1988 request will also mean that more production will be available for these later years.

Unresolved Component Problems

Our review indicates that $69.4 million of the Army's request for four items is not needed because of problems with components. The overstated amount and quantity for each item are as follows:

- $45.4 million for 11,000 155-mm area denial artillery munitions (ADAM) projectiles,
- $10.6 million for 28,000 155-mm smoke projectiles,
- $6.9 million for 296,000 25-mm high explosive incendiary-tracer (HEI-T) cartridges, and
- $6.5 million for 19,000 ground emplaced mine scattering system (GEMSS) antipersonnel mines.

155-mm ADAM Projectiles

The Army is requesting $45.4 million for 11,000 M731 155-mm ADAM projectiles. The request should not be funded because of the continuing ballistics test failures of ADAM projectiles and unresolved problems with delay detonators. In addition, previously funded quantities are large enough to sustain full, one-shift production through the end of the fiscal year 1988 funded delivery period.

In our report on the Department of Defense's fiscal year 1987 budget request for ammunition, we reported that the ADAM projectile had experienced ballistics test failures dating back to 1983. Problems included duds, trip wires that did not extend or failed to set off the mine after force was applied to the wire, and mines that self-destructed ahead of time.

In fiscal year 1986, five of the six M731 ADAM projectile production lots failed ballistics acceptance tests—three because of low-order detonations, one because of duds and low-order detonations, and one because of duds and break wire failures. An Army engineer informed us that the Army later accepted these five rejected production lots on waiver.

The Army has changed its test procedures since the ballistics failures began. Starting in 1985, the Army began to require test firings of the commercially produced mine assemblies to demonstrate performance of several key functions prior to lot acceptance. Previously, mine assembly tests had not involved actual firings. In 1986, ballistics test acceptance criteria for completed projectile lots were made less demanding. According to Army officials, the revised criteria more accurately reflect the capabilities of the system and the greater reliance placed on testing mine assemblies.

The Army has been studying the problems in producing delay detonators for the ADAM projectile since July 1985 but has been unable to determine their cause. In early 1987, detonator lot rejections almost caused the Army to shut down the projectile's production line. Army officials advised us that the detonator production rate has been increased to support the projectile's production even though they could not predict when the problem would be identified and resolved.

We believe that a fiscal year 1988 program for the ADAM projectile is not needed because about 62,000 remain to be delivered from fiscal year 1987 and prior programs. This number is enough to support a production rate of 1,900 projectiles per month, somewhat above the one-shift rate of 1,800 projectiles per month. In fiscal year 1986, ADAM projectile deliveries averaged less than 1,000 per month.

Army officials said the ADAM projectile is used with the high explosive remote antiarmor mine system (RAAMS) and a two-shift operation for the ADAM projectile would be necessary to alleviate an imbalance between the inventories of the ADAM and RAAMS projectiles. However, since the Army has not programmed funding for the RAAMS after fiscal year 1988, imbalances can be alleviated through future procurements of ADAM projectiles.

155-mm Smoke Projectile

The Army requested $34 million for 90,000 155-mm M825 white phosphorus smoke projectiles. Because of significant performance problems with the projectile, the program should be reduced by 28,000 projectiles, or $10.6 million. This reduction would allow production to be sustained at a one-shift rate through the fiscal year 1988 funded delivery period.

Projectile production was stopped in May 1986 when test firings disclosed erratic flight and smoke density problems, and production was not expected to resume until July 1987. Because of this shutdown, only

50,000 of 126,000 projectiles scheduled for delivery in fiscal year 1986 were actually delivered.

The smoke density problem was resolved by changing the specifications to require more and thicker felt wedges in the white phosphorus canisters that are loaded into the projectiles. New canister specifications are also expected to improve flight stability by reducing the movement of white phosphorus when the projectiles are subject to high temperatures.

As of May 1987, 292,000 M825 projectiles remained to be delivered from prior year programs for the Army, Marine Corps, and other customers. By reducing the fiscal year 1988 budget to 62,000 projectiles, the Army could maintain a one-shift production at the Pine Bluff Arsenal through the end of the fiscal year 1988 funded delivery period. Currently, the only Army and Marine Corps procurements scheduled after fiscal year 1988 are for 32,000 projectiles for the Army in fiscal year 1989 and 10,000 projectiles for the Marine Corps in fiscal year 1992.

Army Headquarters officials said the requested 90,000 projectiles would be produced within the fiscal year 1988 funded delivery period on a one-shift basis. However, according to Army delivery schedules, only 62,000 projectiles are scheduled for delivery by the end of the fiscal year 1988 delivery period.

25-mm HEI-T M792 Cartridge

The Army requested $6.9 million for 296,000 25-mm M792 HEI-T cartridges. Because of persistent production and performance problems with the M758 fuze used on the cartridge, the Army had to shut down M792 production, and over 4 million cartridges remain to be produced from prior year programs. Therefore, we believe that the fiscal year 1988 request should not be funded.

Three contractors produce M792 cartridges along with two other 25-mm cartridges (the M791 armor piercing discarding sabot-tracer cartridge and the M793 target practice-tracer cartridge). All three contractors have experienced production shutdowns because of problems with the M758 fuze, and only one contractor is currently producing M792 cartridges. The M758 fuze has been produced by two contractors, and both have had performance or production problems.

The current cartridge production shutdowns originated in the fall of 1985 when one producer's cartridges failed cold weather tests and the Army directed that production stop. The producer said the test failures

were caused by faulty M758 fuzes and issued a quality deficiency report to that effect. The Army rejected the quality deficiency report and the producer filed a suit against the government. This producer has yet to deliver about 770,000 M792 cartridges from fiscal years 1984 and 1985 contracts.

Although the Army rejected the quality deficiency report, it has instructed other cartridge producers not to use any M758 fuzes from the fuze producer involved in the quality deficiency report. This has resulted in the shutdown of a second cartridge producer's line. This second producer has installed new production equipment and resumed production of other 25-mm items in March 1987 but was not scheduled to resume M792 production until September 1987. This second producer has more than 2.3 million M791, M792, and M793 cartridges yet to be delivered on the fiscal years 1984, 1985, and 1986 programs.

As of March 1987, the third contractor was producing cartridges. This producer has more than 1.6 million M791 and M792 cartridges yet to be delivered on its fiscal year 1985 contract.

The fuze producer involved in the quality deficiency report remains closed pending completion of the investigation. Last year, the Army reported that this contractor was expected to be able to accelerate its first article testing and complete its fiscal year 1986 program by May 1987. However, as of May 1987, the producer had not yet passed first article tests or started production.

Army officials said all problems with the M758 fuze have been resolved and they can accelerate production to deliver the requested fiscal year 1988 quantity on schedule. However, we believe that, given the past fuze problems and substantial funded quantities that must be produced from prior years' programs, a fiscal year 1988 program appears unnecessary. In addition, production schedules will not be adversely affected since the requested quantity of 296,000 cartridges represents less than one month of production.

GEMSS Mines

The Army requested $6.5 million for 19,000 M74 GEMSS antipersonnel mines. This request should not be funded because of a history of delayed production due to late deliveries of M74 mine components and because the undelivered quantity from prior years is sufficient to sustain production through the fiscal year 1988 funded delivery period.

Delays in producing M74 mines stem from delays in producing the mine body assemblies. According to an Army official, the body assemblies have been delivered late because of their complexity, problems with contractor quality assurance, problems with the technical data package, and a number of engineering change proposals. As of March 1987, the contractor producing the body assemblies had delivered 2,800 of 78,000 assemblies on contract and was scheduled to deliver 2,100 to 3,000 assemblies per month through May 1989 to complete deliveries up through its fiscal year 1985 award. When produced, these parts are to be sent to the Iowa AAP, where M74 mines are assembled.

The Iowa AAP's one-shift rate is 2,000 mines per month, but the Army has scheduled production for up to 3,000 per month in order to eliminate the production backlog so that the fiscal year 1988 program could be produced on schedule. Eliminating the fiscal year 1988 program would allow the Army to maintain production of prior year programs at the one-shift rate through the fiscal year 1988 funded delivery period.

Army officials agreed that they may not be able to complete the M74 program as scheduled but said the fiscal year 1988 request should be retained since it is the last planned procurement of the M74. We believe that a fiscal year 1988 program is not necessary because the quantity of M74 mines yet to be delivered from prior year programs is enough to sustain production through the fiscal year 1988 funded delivery period. The final year of production could be requested for funding in fiscal year 1989.

Excessive Procurement Lead Time

The Army's request for two items should be reduced by $40.4 million because the procurement lead times have been overestimated. The overstated amount and quantity for each item are as follows:

- $31.7 million for 16,981 M718A1 RAAMS projectiles and
- $8.7 million for 840 mine clearing line charges (MICLICS).

Procurement lead time is the sum of administrative and production lead time. Administrative lead time begins at the start of the fiscal year and represents the time needed to award contracts for components. Production lead time begins when the component contracts have been awarded and ends when initial delivery is made for the assembled ammunition item.

RAAMS Projectile

The Army requested $31.7 million for 16,981 155-mm M718A1 RAAMS projectiles. This quantity reflects the Army's last planned procurement of the M718A1, an improved version of the M718 projectile. The M718A1 projectile is identical to the M718 projectile, except for a new electronic lens assembly. The request could be deferred until fiscal year 1989 to more appropriately match funding to the period in which it will be needed.

The fiscal year 1987 program constitutes the Army's initial buy of the improved RAAMS M718A1 projectiles. The Army is using a 15-month lead time for the M718 program, but 27 months for the M718A1 program, because of the additional time needed to select a lens contractor, establish a new assembly line, and pass first article tests before the production can begin. Since the production line will be operating, the lead time for subsequent programs should be much shorter. In addition, the Army is including an option clause in the fiscal year 1987 program contract for additional quantities, which will also reduce the lead time. Accordingly, the 15-month procurement lead time used for the M718 should be achieved for the M718A1 and, therefore, the fiscal year 1988 request can be deferred to fiscal year 1989.

Army officials advised us that delaying this request to fiscal year 1989 would result in a 5-month break in production, from January through May 1990. However, we determined that a production break could be avoided by rescheduling deliveries of the Marine Corps' M718 projectiles. Army officials said the Marine Corps program would be rescheduled if the Army request is not funded.

MICLIC Program

The Army requested $29.3 million for 2,810 M58A3 MICLICs, but $8.7 million for 840 MICLICs is not needed because the Army's procurement lead time is too long.

The MICLIC is a 350-foot-long line charge containing 1,750 pounds of composition C-4 explosive used to clear a path through minefields. It is launched into the minefield with an MK22 5-inch rocket.

The MICLIC program has been funded each year since 1985. The Louisiana AAP, the primary MICLIC producer, has been producing the MICLIC since May 1986 and is scheduled to produce most of the requested fiscal year 1988 quantity. The remainder is scheduled to be produced at the Milan AAP, which will also produce items for prior programs, another line charge for the Marine Corps, and inert line charges for training.

In preparing the fiscal year 1988 budget, the Army used a procurement lead time of 16 months. With this lead time, the fiscal year 1988 request is scheduled to be completed in December 1989.

We discussed this lead time with Army procurement officials, who informed us that the fuze used with the MICLIC is the long-lead time component, requiring up to 13 months to obtain. Therefore, the procurement lead time for the MICLIC is excessive. Reducing the MICLIC procurement lead time to 13 months to coincide with that of this long-lead time component would mean the fiscal year 1988 funded delivery period would end in September 1989. Since 840 MICLICs, costing $8.7 million, are scheduled for delivery after September 1989, the Army's fiscal year 1988 request could be reduced by $8.7 million.

Deliveries Not Within Funded Delivery Period

As stated earlier, according to Army budget guidance, the ammunition program quantity in a particular fiscal year budget request should be delivered within its fiscal year funded delivery period. Quantities not deliverable within the funded delivery period (plus any lead time necessary) should be programmed for a later fiscal year.

Our review disclosed that $18.2 million of the Army's request for two items is not needed in fiscal year 1988 because part of the total quantity requested will not be delivered within the fiscal year 1988 funded delivery period. The overstated amount and quantity for each item are as follows:

- $15.8 million for 10,400 XM87 Volcano mine canisters and
- $2.4 million for 46,000 M76 infrared smoke screening grenades.

Volcano Mine Canister

The Army's $34.5 million fiscal year 1988 request for 23,000 M87 mine canisters should not be fully funded because 4 months of production—10,400 canisters, estimated to cost $15.8 million—would be delivered after the fiscal year 1988 funded delivery period.

The Army had planned to award the fiscal year 1987 production contract in January 1987. However, because of testing delays and, according to the Army's procurement officer, an unacceptable sole source contractor proposal, the production contract has been delayed until at least September 1987. The delay in the fiscal year 1987 contract award

will result in the delivery of 10,400 mine canisters, 4 months of production from the fiscal year 1988 program, after the fiscal year 1988 funded delivery period.

The Army's budget justification document shows a production lead time of 25 months for the fiscal year 1987 production contract. With this lead time, fiscal year 1987 deliveries would start in October 1989 and continue through May 1990. The fiscal year 1988 program deliveries would start in June 1990 and end in February 1991. The fiscal year 1988 funded delivery period would end in October 1990. Deliveries would, therefore, extend 4 months beyond the funded delivery period.

The Volcano's project manager said the lead time was being reduced because the long-lead time components (the mines) were being produced on an established production line. However, according to an April 1987 production status report, mines already under contract are being delivered far behind contract delivery schedules. For example, as of March 1987, only 632 of 17,544 anti-personnel mines scheduled for delivery had been delivered.

Army Headquarters officials said that all mine deliveries would be made within the funded delivery period and that our proposed reduction would increase the unit cost by about $300. Neither the project manager nor Army headquarters officials provided documentation to support their position. Therefore, we continue to believe that the Army's request should be reduced by $15.8 million for 10,400 M87 mine canisters. The reduction would still provide for adequate quantities to maintain an economic rate of production during the funded delivery period.

Infrared Smoke Screening Grenade

The Army requested $11.1 million for 216,000 M76 infrared smoke screening grenades. We believe that $2.4 million for 46,000 grenades is unnecessary because this quantity cannot be delivered within the fiscal year 1988 funded delivery period.

The M76 grenades are produced by two contractors. One producer developed the M76 grenade and was awarded a portion of the fiscal year 1985 program. A second producer was awarded the balance of the fiscal year 1985 program as well as a multiyear contract for the fiscal year 1986 and 1987 programs. This second producer was scheduled to start deliveries in January 1987. However, production has slipped because an accident forced the closing of the plant before production began. In order to complete the combined Army and Marine Corps fiscal years

1985, 1986, and 1987 programs, this producer was scheduled to produce 41,000 grenades by the end of August 1987 and to produce at its maximum production rate of 20,000 grenades per month in August 1987 and sustain that rate for about a year. According to an Army engineer, this producer is scheduled to receive part of the fiscal year 1988 program because he has a multiyear contract.

Army Headquarters officials acknowledged that the primary producer had not yet passed first article tests but said they expected the contractor to begin production in June 1987 and produce at the maximum rate, if needed. However, as of September 1987 this contractor had not produced any grenades. They also said the original producer would be awarded a portion of the fiscal year 1988 program.

We believe that, because 275,000 grenades remain to be delivered from previously funded programs, the requested program cannot be fully delivered during the funded delivery period and should therefore be reduced by 46,000 grenades. This reduction would permit delivery of grenades from the fiscal year 1988 and prior year programs within the fiscal year 1988 funded delivery period on a one-shift basis.

Inventory Will Exceed Requirements

A total of $25.3 million of the $56.3 million requested for four items is not needed because the Army's request provides greater quantities than needed. Overstated amounts for these items are as follows:

- $12.4 million for 105-mm discarding sabot-target practice (DS-TP) cartridges,
- $8.7 million for 5-inch MK22 rocket motors,
- $3.2 million for lightweight multipurpose system trainers, and
- $1 million for 1988 Volcano practice mine canisters.

105-mm DS-TP Cartridge

Approximately $12.4 million (79,000 items) of the Army's $37.8 million request for 241,000 105-mm M724 DS-TP cartridges is unnecessary because the full program quantity would result in excess inventory at the end of the fiscal year 1988 funded delivery period (November 1989), as shown in table II.2.

Table II.2: Excess Inventory of 105-mm DS-TP Cartridges

	Quantity
Inventory on September 30, 1986	226,000
Due in from prior year programs	931,000
Fiscal year 1988 request	241,000
Total	**1,398,000**
Less estimated usage through November 30, 1989	−1,161,000
Projected inventory on November 30, 1989	237,000
Less inventory objective	- 158,000
Excess	**79,000**

Army procurement activity officials agreed with our calculations but said that estimated usage could increase if fielding of the 120-mm M1A1 tank is delayed. However, as of March 1987, fieldings were on schedule. Army Headquarters officials said that, according to Department of Defense guidance, the Army is authorized to procure the total inventory objective plus inventory to supply 5 years of training. However, if the fiscal year 1988 program is fully funded, the projected inventory will be 237,000 cartridges, 79,000 items above the inventory objective. The Army's objective in procuring training ammunition is to size the program to provide sufficient assets for training and to maintain a predetermined depot level of inventory. The Army's fiscal year 1988 program can be reduced by 79,000 cartridges and still meet this objective.

5-inch MK22 Rocket Motor

The Army requested $13.7 million for 3,592 MK22 5-inch rocket motors, which are used with the MICLIC and inert line charges for training. However, $8.7 million for 2,290 rocket motors is unnecessary because the Army is planning to buy more rocket motors than needed.

One 5-inch MK22 rocket motor is needed for each MICLIC, and four rocket motors are needed for each training line charge (each is expected to be used four times). The Army received funding for 5,005 MICLICs and 151 inert line charges through fiscal year 1987 and is requesting funding for 2,810 MICLICs and 116 training charges in fiscal year 1988. A total of 8,883 rocket motors would be needed for these line charges—7,815 for MICLIC and 1,068 for training. The Army received funding for 6,741 rocket motors in prior years and is requesting funding for 3,592 rocket motors in fiscal year 1988—a total of 10,333 rocket motors, or 1,450 more than needed. The request could be reduced by $5.5 million for these excess items. In addition, we have identified a potential reduction

of 840 MICLICs to the Army's fiscal year 1988 request (see p. 21). Therefore, we believe the Army's fiscal year 1988 rocket motor request should be reduced by a total of 2,290 motors, estimated to cost $8.7 million.

Army officials said the fiscal year 1988 rocket motor request is justified because the rocket motor has a longer lead time than the MICLIC. Information provided by the Army's procurement activity personnel compared line charge and rocket motor programs but did not discuss differing funded delivery periods. Our analysis of this information disclosed that there will be an excess rocket motor inventory of 2,290 motors at the end of the fiscal year 1988 funded delivery period and, therefore, a reduction is warranted.

Lightweight Multipurpose System Trainer

The $3.2 million request for the lightweight multipurpose system trainer is not needed because the Army has reduced its requirements for trainers from 7,605 to 2,700 and the Congress had already provided sufficient funding in prior years to provide the reduced quantity. Army officials agreed but said that funding provided in prior years has been used for other purposes.

Volcano Practice Mine Canister

The Army's $1.6 million fiscal year 1988 program to purchase about 5,000 M88 practice mine canisters was based on a training strategy that has subsequently been revised. As a result, funding for 3,000 of these canisters, estimated to cost about $1 million, is unnecessary.

Instead of requiring 160 practice mine canisters per dispenser for every training mission, the revised strategy requires only four. This reduction will have a significant impact on total requirements for the practice mine canister. Under the previous training strategy, the Army would have used approximately 3,200 practice mine canisters for training during fiscal year 1989. However, the Army may now need as few as 80 to support training during fiscal year 1989.

Totally eliminating the fiscal year 1988 program or reducing the training requirement to 80 practice mine canisters would cause a break in production between the fiscal year 1988 program and the planned fiscal year 1989 program. To preclude this, the fiscal year 1987 and 1988 production could be limited to the minimum sustaining rate of 400 canisters per month. This limitation would extend the fiscal year 1987 production to July 1989 and limit fiscal year 1988 program production to 4-1/2

months, or 1,800 canisters. These quantities would be more than adequate to support fiscal year 1989 training requirements, either for the original or revised training strategy; these quantities would also support a buildup to the Army's depot requirement of 200 days of supply, without disrupting production.

The Volcano's project manager agreed with our recommendation to limit production of fiscal years 1987 and 1988 program quantities to the minimum sustaining rate to more closely align deliveries with the revised training requirements without disrupting production. Army Headquarters representatives said that the training requirements are being modified and did not dispute our conclusion that the fiscal year 1988 program could be reduced by about $1 million.

Ammunition Production Base Support

The Army's fiscal year 1988 ammunition production base support request for $168.5 million includes $66.2 million for nine projects to modernize and expand the ammunition production base. We reviewed the status of designs for all nine projects and determined that the designs were sufficiently complete to provide a sound basis for determining the scopes of the projects and their estimated costs. We reviewed the justifications for five of the nine projects, representing $42.8 million of the $66.2 million request, and did not identify any potential reductions. Therefore, we are not recommending reductions to the Army's production line support request.

Army's Proposed Program Increases

Army representatives identified 14 items for which quantities could be increased to realign the program and/or to offset recommended program reductions. The Army provided the list after we had completed our field work, and we did not evaluate the justification for these items. However, the list includes items for which we have recommended reductions in the fiscal year 1988 budget request. Items the Army proposed for increases are shown in table II.3.

Table II.3: Army's Proposed Program Increases

Dollars in millions

Item	Quantity	Cost
Nuclear weapons support	•	$1.9
Volcano mine, XM87	•	5.0
4.2-inch mortar, HE	135,000	13.7
5-inch rocket	1,000	4.0
5.56-mm cartridge with tracer	6,000,000	2.2
4.2-inch mortar, illuminating	50,000	25.0
Ammunition support for the National Training Center	•	2.0
Propelling charge, M119	200,000	19.7
Point detonating fuze, M739	580,000	9.7
25-mm armor-piercing training cartridge	556,000	15.0
GEMSS, M75	185,000	37.2
Propelling charge, M3	200,000	8.6
Improved 81-mm mortar, smoke	25,000	5.6
120-mm mortar, HE	32,000	10.9
Total		**$160.5**

Conclusion

We believe that $320.9 million of the Army's fiscal year 1988 request is not needed because (1) type-classification is too late for eight items, (2) production schedules for two items may be difficult to achieve, (3) four items have unresolved component problems, (4) procurement lead time for two items is excessive, (5) two items cannot be delivered within the funded delivery period, and (6) the inventory for four items will exceed objectives if the requests are fully funded.

Recommendation

We recommend that the Senate and House Committees on Appropriations reduce the Army's ammunition appropriation request by $320.9 million for 22 items, as shown in appendix VI.

Navy Ammunition Program

The Navy's fiscal year 1988 request consists of $566.3 million for 28 ammunition budget lines. We examined the Navy's justification for items in 19 of these budget lines, representing $469.4 million, or 83 percent of the funds requested. Appendix VII shows the budget lines reviewed and our recommended reductions. We believe the request could be reduced by $63.1 million for the following reasons:

- $37.6 million is for three items that have continuing production problems.
- $11.9 million is for three items for which the programmed procurements are premature.
- $5.5 million of $13.5 million requested for one item is unnecessary because the unit cost is overstated.
- $4.6 million is for an item for which a lower cost, alternative component will be used.
- $3.5 million for three items is unnecessary because inventory would exceed requirements.

Production Problems

A total of $37.6 million of the Navy's request for three items is not needed for the following reasons:

- $16.7 million is for BDU-45 practice bombs whose required cable assembly cannot be produced.
- $13.5 million is for MK76 practice bombs experiencing production problems with a suspension lug.
- $7.4 million is for a 5-inch, 54-caliber projectile having testing and production problems.

BDU-45 Practice Bomb

The $16.7 million requested for BDU-45 practice bombs is not needed because of problems in producing the M72 cable assembly, a component of the BDU-45.

As of January 31, 1987, 149,300 BDU-45 practice bombs had not been delivered out of 201,048 that have been funded since fiscal year 1984. The backlog results primarily from problems in producing the cable assembly, which caused the bomb's production line to shut down from October 1986 to May 1987. At least two contractors have attempted to produce the M72 cable assembly. One contractor was terminated in September 1986 because he could not produce acceptable cable assemblies,

and a second contractor is experiencing problems. In view of these production problems, we believe the fiscal year 1988 request should not be funded.

Navy representatives agreed with our position.

MK76 Practice Bomb

The Navy's fiscal year 1988 request for $13.5 million to purchase MK76 practice bombs should not be funded because of problems in producing the MK14 suspension lug, a component of the bomb. Over the years there have been several different MK14 producers, all of whom have had problems producing acceptable suspension lugs.

In order to produce MK76 practice bombs, the Air Force provided suspension lugs to the Navy. However, the supply of Air Force lugs is nearly exhausted, and the Air Force no longer has lugs to provide to the Navy. Therefore, production of the undelivered quantity from prior years and the requested fiscal year 1988 program is contingent on obtaining additional lugs from contractors.

As of February 28, 1987, the Navy had received funding for 874,012 MK76 bombs that were undelivered, as shown in table III.1.

Table III.1: Undelivered MK76 Practice Bombs

Fiscal year	Program amount	Program quantity	Undelivered quantity
1986	$16,140,000	809,326	400,364
1987	8,550,000	473,648	473,648
Total	**$24,690,000**	**1,282,974**	**874,012**

As of March 30, 1987, contracts for MK14 suspension lugs required for fiscal years 1986 and 1987 had not been awarded. A legal action brought by a contractor against the Navy could further delay production of the MK14 suspension lug. Given the uncertain availability of MK14 suspension lugs required to produce MK76 practice bombs, we believe the fiscal year 1988 request for the MK76 practice bombs should not be granted.

Navy representatives do not agree. They believe that, by replacing the current contractor with two new contractors, the backlog in MK14 suspension lug production can be eliminated in time to complete the fiscal year 1988 MK76 program.

We believe the Navy is being overly optimistic. Only one of the two contractors mentioned by Navy representatives has ever produced the MK14 suspension lug, and it stopped production 6 years ago. Given the history of past production problems with the MK14 suspension lug, the uncertainty surrounding the capabilities of the two possible replacement contractors, and the ongoing legal dispute with the current MK14 lug producer, we believe the Navy's fiscal year 1988 request should not be funded.

5-inch, 54-caliber Gun Ammunition

We believe $7.4 million of the Navy's $53.4 million request for 5-inch, 54-caliber gun ammunition is not needed because of problems experienced during the testing and production of high fragmentation projectiles.

Last year, we reported that the Navy had not completed the fiscal year 1981 program because of the unavailability of one component—a retaining ring—necessary to produce a complete round. The Navy took action to produce the necessary retaining rings, but subsequent tests of the rings revealed gun-ramming problems. The Navy's proposed solution to the problem is to change the ramp angle. However, before changing the ramp angle, a 20-round test of production items will be conducted.

The Navy's testing of the retaining rings also showed a possible separation of the projectile's two-body sections during firing. To further investigate this problem, the Navy conducted a 77-round test, which showed that separation of the body sections did occur on many projectiles. Navy officials advised us that a possible solution to the separation problem has been identified but needs to be tested.

In addition to these testing problems, the Navy has also experienced a production problem. The contractor producing the forward body sections for the fiscal years 1984 and 1985 programs was terminated for default, and the contract was reawarded in January 1987.

As shown in table III.2, the Navy has already received substantial funding to procure high fragmentation projectiles beginning with the initial production in fiscal year 1981.

Table III.2: High Fragmentation Projectile Program

Fiscal year	Quantity	Amount
1981	10,000	$9,057,000
1984	18,764	20,156,000
1985	22,606	17,862,000
1986	9,763	8,674,000
Total	**61,133**	**$55,749,000**

As of February 1987, the Navy had received about 1,000 projectiles for the fiscal year 1981 program—all prior to February 1985—and the Navy had no firm plans to assemble any additional projectiles for the already-funded programs.

In view of the delays in producing projectiles during the prior year programs, we believe there is no need for additional funding until the Navy satisfactorily resolves the gun-ramming and projectile separation problems.

Navy representatives agreed with our position.

Premature Procurements

A total of $11.9 million of the Navy's request is premature because of program delays. The items and amounts are as follows:

- $10.5 million for DSU-30/B target-detecting devices,
- $1 million for 25-mm machine gun ammunition, and
- $400,000 for MK15 improved primers.

DSU-30/B Target-Detecting Device

The $10.5 million requested for the DSU-30/B target-detecting device is not needed because of delayed production approval.

The Navy's fiscal year 1987 budget request included funding for the initial procurement of the DSU-30/B. At that time, production approval was expected in May 1987 but has since slipped to at least January 1988. As a result, the planned initial procurement for fiscal year 1987 will slip to fiscal year 1988. Since funding for initial procurement was provided in the fiscal year 1987 program, additional funding for fiscal year 1988 is unnecessary.

Navy representatives told us, however, that the fiscal year 1987 funds for the initial procurement are being held by the Navy Comptroller for a

planned reprogramming action. They were unable to provide information concerning the planned alternative use of these funds. Since the Congress has already provided fiscal year 1987 funds for the initial procurement of DSU-30/B target detecting devices that could be used to meet fiscal year 1988 needs, we believe it is unnecessary to provide additional funds.

25-mm Machine Gun Ammunition

The Navy's $1 million request for 25-mm high explosive incendiary (HEI) cartridges is premature because this item is being improved. The Navy's current 25-mm HEI cartridge is not as effective as desired and, as a result, the Navy began to improve the cartridge in fiscal year 1986. The program is expected to be completed in late fiscal year 1988 with production starting in fiscal year 1989. In view of the product improvement program, we believe it is premature to provide funding for HEI ammunition in fiscal year 1988. Navy representatives agreed.

MK15 Primer

The Navy's fiscal year 1988 budget request for 16-inch gun ammunition includes $400,000 for MK15 improved primers. In fiscal year 1987, the Navy requested about $1 million to purchase MK15 primers. However, the Navy's product improvement program has been delayed, and production approval is not expected until January 1988. Therefore, there is no need for additional funding for the fiscal year 1988 request. Navy representatives agreed.

Overstated Unit Cost Estimate

A total of $5.5 million of the Navy's $13.5 million request for the BSU-85 air inflatable retarders is not needed because of overstated unit costs.

The $13.5 million requested in the fiscal year 1988 budget for BSU-85 air inflatable retarders, which are used with MK83 general purpose bombs, could be reduced by $5.5 million because the unit cost is overstated. In March 1987, the Navy awarded a 5-year contract for the procurement of 65,900 BSU-85 bomb retarders. The contract unit cost for this procurement is $477. The Navy's fiscal year 1988 budget request is based on a unit cost of $803, or $326 more than the contract unit price. Since the Navy plans to purchase 16,795 BSU-85 bomb retarders during fiscal year 1988, the request is overstated by $5.5 million. Navy representatives agreed.

Lower Cost Fuze Will Probably Be Used

The $19.8 million requested for 775 Gator weapons could be reduced by $4.6 million because the Navy will most likely use the MK339, a lower cost fuze than the one for which funding is requested—the FMU-140/B. The Navy's latest plans are to use the MK339, at least until the FMU-140/B is fully tested.

As a result of Gator testing in 1981, the Navy's test agency said a fuze that would provide loft and dive capability was desirable. The test agency believed that the fuze tested—the MK339 fuze—was satisfactory for level deliveries only. To satisfy its needs, the Navy began developing the FMU-140/B proximity fuze.

The Navy plans to test the FMU-140/B fuze during Gator follow-on test and evaluation (FOT&E). Last year we reported that the Gator FOT&E had been delayed, but the Navy anticipated that the tests would start in May 1986. They have, however, been delayed again, and the Navy expected to begin the tests in September 1987. The tests are expected to take about 6 months to complete with final test results available in April 1988. The FOT&E was delayed because ballistics data for the new fuze was unavailable and other data was still being developed.

To date, the Navy has made three production decisions for the Gator weapon system. Each decision, including the last one in March 1987, has specified that the MK339 fuze be used. We believe the fiscal year 1988 request for 775 Gator weapons could be reduced by $4.6 million because the lower priced MK339 fuze will most likely be used. Each MK339 fuze costs $5,595 less than the FMU-140/B proximity fuze.

Navy representatives did not agree with our recommended reduction because they believe that the FMU-140/B proximity fuze is required for all Gator weapons. However, as mentioned above, each of the three Gator production approval decisions specified that the MK339 fuze would be used. In view of past delays in the testing of the Gator with the FMU-140/B proximity fuze, we do not believe that the Gator weapon should be funded to include the FMU-140/B fuze until the Navy successfully completes the required testing.

Inventory Will Exceed Requirements

A total of $3.5 million for three items is not needed because the additional procurements will cause inventories to exceed the Navy's objectives. Specifically, we believe that the following reductions could be made:

- $1.6 million for 20-mm linked training cartridges,
- $1.2 million for 16-inch submunition rounds, and
- $700,000 for MK214 SEA GNAT decoys.

20-mm Linked Training Cartridge

The Navy's other ship gun ammunition request includes $1.6 million to purchase 205,900 20-mm linked training cartridges. However, based on the Navy's budget data, the planned procurement would result in an inventory that exceeds the objective by about 290,000 cartridges. Therefore, we believe the requested funding for the 20-mm linked training cartridges is not necessary. Navy representatives agreed with our position.

16-inch Submunition Round

The Navy's 16-inch gun ammunition request includes $6 million to purchase approximately 500 submunition rounds. Our review of budget data disclosed that the planned procurement of 500 rounds would result in an inventory that exceeds the objective by 100 rounds, valued at $1.2 million. Therefore, $1.2 million for 100 rounds is not needed. Navy representatives agreed.

MK214 Sea GNAT Decoy

The Navy's fiscal year 1988 request for shipboard expendable countermeasures includes $4.8 million to purchase 3,850 MK214 SEA GNAT decoys. Our review of budget data disclosed that the planned procurement will result in an inventory that exceeds the Navy's objective by 553 decoys. Therefore, $700,000 for the 553 decoys is not needed. Navy representatives agreed.

Navy's Proposed Program Increases

Navy representatives identified numerous items for which program quantities could be increased. The Navy provided the list after we had completed our field work, and we did not evaluate the justification for these items. However, the list includes items for which we have recommended reductions in the fiscal year 1988 budget request. Items the Navy proposed for increases are shown in table III.3.

Table III.3: Navy's Proposed Program Increases

Dollars in millions

Item	Amount
Gator	$35.4
FMU-140/B fuze	114 8
Practice bombs	11 0
General purpose bombs	16 3
Zuni rocket	1 9
2.75-inch rocket	1 8
Machine gun ammunition	23.3
Laser guided bomb kit	31.1
5-inch, 38-caliber ammunition	1 1
5-inch, 54-caliber ammunition	45 7
Close-in weapon system (CIWS) ammunition	44.6
76-mm gun ammunition	4 5
16-inch gun ammunition	4.2
Other ship gun ammunition	15 9
Small arms ammunition	28 3
Total	**$379.9**

Conclusion

We believe the Navy's request could be reduced by $63.1 million for (1) three items experiencing production problems, (2) three items for which programmed procurements are premature, (3) one item whose unit cost is overstated, (4) one item for which a lower cost fuze will most likely be used, and (5) three items for which inventory would exceed requirements.

Recommendation

We recommend that the Senate and House Committees on Appropriations reduce the Navy's ammunition appropriation request by $63.1 million for eight budget lines, as shown in appendix VII.

Air Force Ammunition Program

The Air Force requested $643.4 million for ammunition in its fiscal year 1988 program. We reviewed the justification for 11 budget line items, representing $493.4 million, or about 77 percent of the funds requested. Appendix VIII shows the items we reviewed and our recommended reductions to the request. We believe the requests for five budget line items could be reduced by a total of $189.1 million for the following reasons:

- $169.4 million is for two items for which total program quantities will not be delivered during the fiscal year 1988 funded delivery period.
- $7.7 million is for two items with excessive procurement lead times.
- $12 million is for one item for which an increase would result in inventory that exceeds needs.

Deliveries Not Within Funded Delivery Period

A total of $169.4 million of the $295.7 million requested for two items is not needed to fund the portions of the requested quantities that are scheduled for delivery during the fiscal year 1989 funded delivery period. Overstated amounts for these items are as follows:

- $161.6 million for combined effects munitions (CEMs) and
- $7.8 million for MJU-10B flares.

CEM Program

The Air Force is requesting $277.1 million for CEMs. Because of delays in establishing production lines at contractor plants, initial deliveries from the fiscal year 1985 contract were not made until February 1987, 4 months later than planned. This delay, in turn, will slow delivery of the quantities budgeted in fiscal years 1986, 1987, and 1988. We estimated that $161.6 million of the fiscal year 1988 request can be deferred to future years because 8,657 CEMs of the 14,840 program quantity are scheduled to be delivered during the fiscal year 1989 funded delivery period.

According to the Air Force's budget backup data, the procurement lead time for the CEM is 17 months—6 months for administrative lead time and 11 months for production lead time. Therefore, deliveries for the fiscal year 1988 program should start in March 1989 and end in February 1990. However, fiscal year 1988 program deliveries are scheduled to be completed in September 1990, or 7 months into the fiscal year 1989 funded delivery period. Therefore, fiscal year 1988 funding is needed only for the quantity scheduled for delivery during the 5-month period

ending February 1990, and funding for 8,657 CEMs, estimated to cost $161.6 million, can be deferred to future years.

There are indications, however, that the procurement lead time may be shorter than 17 months. The Air Force negotiated options for the programs for fiscal years 1988 through 1991 in its contract for the fiscal year 1987 program. We believe, and Air Force procurement officials agreed, that exercising a reorder option to an existing contract should not require a procurement lead time of 17 months and that a 12-month procurement lead time is possible. Also, the Army will award the contract for the fiscal year 1988 program and plans to use a 16-month procurement lead time.

Air Force Headquarters representatives said that (1) production of prior years' programs could be increased to two shifts to meet a 17-month procurement lead time for the fiscal year 1988 program, and (2) the Air Force inventory is short of mobilization requirements for the CEM; therefore, additional quantities should be produced as quickly as possible.

Production schedules provided by the Air Force, however, show about a one-shift rather than a two-shift operation. Indeed, the schedule seems to reflect the Army's attempt to maintain a stable work force at its ammunition plants by stabilizing the work load. Consequently, we believe fiscal year 1988 funding could be reduced by $161.6 million, as discussed above.

MJU-10B Flare

The $18.6 million requested for 396,000 MJU-10B infrared flares could be reduced by about $7.8 million because 5-months' production is scheduled beyond the fiscal year 1988 funded delivery period.

Production of this flare has been delayed about 2 years because two contractors are redesigning it to prevent smoke damage to aircraft. According to the Air Force's program manager, the redesign of the flare is nearing completion, and production of the fiscal years 1985 and 1987 programs is scheduled to begin in November 1987 and end in May 1989. (Funds were not requested in fiscal year 1986.)

Budget support documents show a 15-month procurement lead time for the fiscal year 1988 program; therefore, deliveries should begin in January 1989 and end in December 1989. However, because delivery from prior year programs extends through May 1989, the fiscal year 1988 deliveries could not begin until June 1989. As a result, 5 months of

deliveries would extend into the fiscal year 1989 funded delivery period. Consequently, the procurement of about 165,000 flares could be deferred until the fiscal year 1989 program, and the request could be reduced by about $7.8 million.

Air Force officials said that the request should not be reduced because the two planned producers could produce the fiscal year 1988 program quantity in 10 months. However, our analysis indicates that it will take 12 months for the two producers to produce the program quantity because it will take one producer 9 months to reach maximum production.

Excessive Procurement Lead Times

A total of $7.7 million of the $25.7 million requested for two items is not needed because the procurement lead times used by the Air Force are too long. These items and overstated amounts are as follows:

- $5.5 million of $16.4 million for BDU-33 practice bombs and
- $2.2 million of $9.3 million for BSU-49 inflatable retarders.

BDU-33 Practice Bomb

About $5.5 million of the $16.4 million requested for BDU-33 practice bombs is not needed in fiscal year 1988 because the procurement lead time used by the Air Force is too long. The Air Force used a procurement lead time of 15 months, but we determined that actual procurement lead time for the fiscal years 1982 through 1986 programs ranged from 1 to 8 months and that a 10-month lead time is reasonable. In addition, the fiscal year 1987 program has been delayed because the technical data package had to be modified to correct a deficiency identified in the bomb fin. This modification delayed contractor selection and, as a result, completion of the 1987 program is forecast for November 1988.

Air Force Headquarters representatives said that a 15-month procurement lead time is needed because the Army—which will procure the item for the Air Force—will probably award the fiscal year 1988 contract competitively. However, this estimate does not recognize that past procurements have been awarded competitively with lead times of less than 10 months. In addition, the Army's integrated conventional ammunition procurement plan shows the item has a procurement lead time of 10 months. Based on the Army's 10-month lead time, fiscal year 1988 deliveries would begin in August 1988 and end in July 1989. Since fiscal year 1987 deliveries are not scheduled for completion until November 1988, fiscal year 1988 funding is needed for 8 rather than 12 months of

production. Consequently, we believe the fiscal year 1988 request could be reduced by one-third, or about 425,000 BDU-33 practice bombs, estimated to cost about $5.5 million.

BSU-49 Inflatable Retarder

About $2.2 million of $9.3 million requested for 26,196 BSU-49 inflatable retarders is not needed in fiscal year 1988 because the procurement lead time used by the Air Force is too long.

The Air Force's fiscal year 1988 budget justification documents show a procurement lead time of 15 months for the retarder. However, the Army will be procuring this item for the Air Force and states that it has two approved sources for the retarder and that 12 months is sufficient lead time. With a 12-month lead time, about $2.2 million for 6,315 retarders is not needed in fiscal year 1988.

Air Force Headquarters representatives said that deliveries for two fiscal year 1987 contracts will begin in July 1987 and October 1987. These represent lead times of 9 months and 12 months, respectively. These schedules clearly demonstrate that a 12-month lead time is achievable. Further, these officials said that an option will be written into one contract that can be exercised for the fiscal year 1988 program, reducing the procurement lead time even further.

Inventory Will Exceed Requirements

About $12 million of the $81.7 million requested for 9,732,000 30-mm training cartridges is not needed because the forecasted annual expenditures appear overstated. We believe that, unless the fiscal year 1989 quantity is reduced, the Air Force will have an excess inventory at the end of the fiscal year 1988 funded delivery period.

The Air Force is forecasting annual expenditures of about 9.2 million cartridges in the fiscal year 1988 budget. This number is significantly higher than the number of cartridges actually used in recent years, except 1985, as shown in table IV.1.

Table IV.1: Number of 30-mm Training Cartridges Used Annually

Calendar year	Quantity
1982	2,783,764
1983	3,747,161
1984	4,281,624
1985	9,152,569
1986	6,824,302

Air Force officials could not explain why the 1985 usage was significantly higher than usage in other years. They said that, because the Air Force system for reporting the use of 30-mm training cartridges is incomplete and unreliable, they had calculated usage for calendar years 1984 through 1986 by adding receipts to the beginning balance and subtracting the ending balance. They pointed out, however, that the numbers of cartridges used in prior years do not represent actual requirements because usage has been constrained due to a shortage of available cartridges. While this may be true, Air Force records show that there were sufficient numbers of cartridges during the past 2 years.

We discussed a potential annual usage of about 8 million cartridges (the average of the 1985 and 1986 figures) with Air Force Headquarters representatives who told us that 8.3 million cartridges are needed in the fiscal year 1988 program to ensure competition between the two producers. At this level, the fiscal year 1988 request of $81.7 million for 9,732,000 cartridges could be reduced by $12 million for 1,432,000 cartridges.

Conclusion

We believe that the Air Force's request is overstated by $189.1 million for the following reasons: (1) for two items, deliveries cannot be made during the fiscal year 1988 funded delivery period, (2) for two items, procurement lead times are too long, and (3) for one item, the requested quantity will cause the inventory to exceed the inventory objective.

Recommendation

We recommend that the Senate and House Committees on Appropriations reduce the Air Force's ammunition appropriation request by $189.1 million for five budget line items, as shown in appendix VIII.

Marine Corps Ammunition Program

The Marine Corps requested $410.9 million in fiscal year 1988 for ammunition. We reviewed the justification for 33 items, representing $335.1 million, or 82 percent of the total request. Appendix IX shows the budget lines we reviewed and our recommended reductions to the request. We concluded that the justification was adequate for most items. However, we believe that $4.5 million requested for one item—the M732E2 proximity fuze—is unnecessary because this Army fuze will not be ready for procurement in fiscal year 1988.

Type-Classification Delayed

The Marine Corps requested $4.5 million for 26,000 M732E2 proximity fuzes. As discussed in appendix II, type-classification for this Army item will be too late for fiscal year 1988 procurement. Army policy states that, in general, an item to be procured in a particular fiscal year should be type-classified (i.e., approved for troop use) no later than the end of the first quarter of that fiscal year. Therefore, December 1987 is the type-classification deadline for an item to be included in the fiscal year 1988 program. However, type-classification for the M732E2 fuze has been delayed until the third quarter of fiscal year 1988. This is too late for a fiscal year 1988 procurement. A Marine Corps Headquarters official agreed that, because of the type-classification delay, the fuze should not be funded in fiscal year 1988.

Conclusion and Recommendation

We believe that the Marine Corps' request is overstated by $4.5 million for the M732E2 proximity fuze because the fuze will not be ready for procurement in fiscal year 1988. Accordingly, we recommend that the Senate and House Committees on Appropriations reduce the Marine Corps' ammunition appropriation request by $4.5 million, as shown in appendix IX.

GAO's Recommended Adjustments to the Army's Ammunition Request

Dollars in millions

Budget line number	Item	Budget request	Recommended adjustments	Adjusted request	Remarks
3	Cartridge, 5 56-mm ball, M193	$8.2	$ •	$8 2	-
5	Cartridge, 5.56-mm tracer, clip	1 2	•	1 2	-
6	Cartridge, 5 56-mm blank, M200	16.3		16 3	-
7	Cartridge, 5 56-mm blank, M200 linked for SAW	5.9	•	5 9	-
9	Cartridge, 5 56-mm ball for M16A2	8 1	•	8.1	-
10	Cartridge, 5.56-mm plastic, M862	2 7	•	2 7	-
11	Cartridge, 5 56-mm tracer for M16A2	4 9	•	4.9	-
12	Cartridge, 7 62-mm 4 ball/1 tracer	14 3	•	14 3	-
15	Cartridge, 7 62-mm blank, M82 linked	13 0	•	13 0	-
17	Cartridge, .45 caliber ball, M1911	1 3	•	1 3	-
24	Cartridge, 20-mm TP-T, M220 series	12.6	•	12 6	-
25	Cartridge, 20-mm 4TP/ 1TP-T linked	4 0	•	4 0	-
26	Cartridge, 25-mm HEI-T, M792	6 9	−6 9	•	Unresolved component problems (see p 18)
28	Cartridge, 25-mm TP-T, M793	11 0	•	11 0	-
33	Cartridge, 40-mm HEDP, M430	9 9	•	9 9	-
34	Cartridge, 40-mm TP for MK19	28 5	•	28 5	-
35	Cartridge, 40-mm green star, parachute	2 3	•	2 3	-
36	Cartridge, 40-mm practice, M781	3 2	•	3.2	-
37	Cartridge, 40-mm white star, cluster	6.5	•	6 5	-
38	Cartridge, 40-mm red star, parachute	1 7	•	1 7	-
39	Cartridge, 40-mm CS, M651	2 6	•	2 6	-
40	Cartridge, 60-mm illuminating LWCMS, XM721	7 8	•	7 8	-
41	Cartridge, 60-mm smoke, LWCMS, XM722	4 5	•	4 5	-
42	Cartridge, 60 mm HE, M720 with M734 fuze	26 8	•	26.8	-
45	Cartridge, 81 mm HE, M821 with M734 fuze	60.2	•	60 2	-
48	Cartridge, 4 2-inch HE, M329A2	19 7	•	19 7	-
49	Cartridge, 120-mm HE with fuze	12 2	−12 2	•	Planned type-classification does not support procurement (see p 12)
50	Cartridge, 120-mm HE, with point detonating fuze	4 4	−4 4	•	Planned type-classification does not support procurement (see p 12).
51	Cartridge, 120-mm illuminating, XM930	19.0	−19 0	•	Planned type-classification does not support procurement (see p 12)

(continued)

Budget line number	Item	Budget request	Recommended adjustments	Adjusted request	Remarks
52	Cartridge, 120-mm smoke, XM929	$9 9	$−9.9	•	Planned type-classification does not support procurement (see p. 12)
53	Cartridge, 120-mm 1/10 training	2 1	−2.1	•	Planned type-classification does not support procurement (see p 12)
54	Cartridge, 105-mm blank, M395	3 2	•	3 2	·
55	Cartridge, 105-mm illuminating, M314	18 5	•	18 5	·
57	Cartridge, 105-mm TP-T, M490	4.9	•	4.9	·
58	Cartridge, 105-mm DS-TP, M724	37 8	−12.4	25 4	Inventory will exceed needs (see p 24)
59	Cartridge, 105-mm APFSDS-T, M833	32.5	•	32 5	
61	Cartridge, 120-mm APFSDS-T, M829	77 3	•	77 3	·
62	Cartridge, 120-mm HEAT- MP-T, M830	53.0	•	53 0	
63	Cartridge, 120-mm TP-T, M831	63.6	•	63 6	·
64	Cartridge, 120-mm TPCSDS-T, M865	83.7	•	83.7	·
65	Cartridge, 35-mm subcaliber for tank	2 0	•	2.0	·
66	Projectile, 155-mm HE, ICM, M483	98 7	•	98.7	·
68	Projectile, 155-mm illuminating, M485	43 6	•	43 6	·
69	Projectile, 155-mm smoke, M825	34.0	−10.6	23.4	Unresolved component problems (see p 17).
70	Projectile, 155-mm HE, ADAM, M731	45.4	−45.4	•	Unresolved component problems (see p. 16)
71	Projectile 155-mm HE, RAAMS, M718	31 7	−31.7	•	Excessive procurement lead time (see p 21).
73	Projectile, 155-mm Basebleed, XM864	70 1	−70 1	•	Questionable production (see p 14).
74	Projectile, 155-mm HE, Copperhead	100 6	•	100 6	·
76	Projectile, 155-mm training, M804	14 5	•	14 5	·
78	Propelling charge, 155-mm red bag, M203	108.9	•	108.9	
79	Propelling charge, 155-mm red bag, M119	19 7	•	19 7	
83	Projectile, 8-inch HE, RAP, M650	42 4	•	42 4	·
84	Fuze, proximity, M732	24 2	−24.2	•	Planned type-classification does not support procurement (see p. 12)
86	Fuze, MTSQ, M577A1	43 2	•	43 2	·
87	Fuze, MTSQ, M582	11 7	•	11.7	·
89	Primer, percussion, M82	2.6	•	2.6	·
90	Training device, mine system	5 0	•	5 0	·
91	GEMSS AP mine, M74	6 5	−6 5	•	Unresolved component problems (see p 19).
92	GEMSS AT mine, M75	5 3	•	5.3	·
93	Canister mine, practice, XM88 (Volcano)	1.6	−1 0	0.6	Budget in excess of training requirements (see p. 26)

(continued)

Budget line number	Item	Budget request	Recommended adjustments	Adjusted request	Remarks
94	Canister mine, XM87 (Volcano)	$34.5	$−15.8	$18.7	Deliveries not within funded delivery period (see p 22).
95	Rocket motor, 5-inch, MK22	13.7	−8 7	5.0	Inventory will exceed needs (see p. 25).
96	Line charge, M58A3 (MICLIC)	29.3	−8.7	20.6	Excessive procurement lead time (see p. 21).
98	Modular pack mine system (MOPMS)	62.5	−10 7	51.8	Questionable production schedule (see p 15)
99	Pursuit deterrent munition	12.1	•	12.1	-
102	Cartridge, 105-mm HERA, XM913	7.9	−7 9	•	Planned type-classification does not support procurement (see p 13)
103	Lightweight multipurpose weapon, AT-4	66.1	•	66.1	-
104	Lightweight multipurpose weapon, trainer	3.2	−3 2	•	Inventory will exceed needs (see p. 26).
108	Hydra 70 rocket, smoke XM264	7 1	−7.1	•	Planned type-classification does not support procurement (see p 13).
111	Hydra 70 rocket, signal practice, XM274	38 2	•	38 2	-
112	Hand grenades, all types	1.7	•	1 7	-
114	Grenade, smoke screening IR, M76	11.1	−2 4	8 7	Deliveries not within funded delivery period (see p 23)
115	Signals, all types	16.0	•	16.0	-
116	Simulators, all types	6.4	•	6.4	-
Total[a]		**1,727.7**	**−320.9**	**1,406.8**	
Total[b]		**298.0**	•	**298.0**	
Total[c]		**$2,025.7**	**$−320.9**	**$1,704.8**	

[a]Total for budget lines we reviewed.

[b]Total for budget lines we did not review

[c]An additional amount was requested for ammunition production base support

GAO's Recommended Adjustments to the Navy's Ammunition Request

Dollars in millions

Budget line number	Item	Budget request	Recommended adjustments	Adjusted request	Remarks
192	Skipper	$37.0	$ •	$37 0	-
193	General purpose bombs	80.3	−16 0	64 3	DSU-30/B production approval delayed (see p. 32). BSU-85 bomb retarder costs overstated (see p 33)
194	Laser guided bomb kits	4.4	•	4.4	-
195	Walleye	10.7	•	10.7	-
196	Rockeye	6 8	•	6 8	-
197	Zuni rocket	29.5	•	29 5	-
198	2.75-inch rocket	19.1	•	19.1	-
200	Machine gun ammunition	15 4	−1 0	14.4	25-mm HEI cartridge procurement premature due to product improvement program (see p 33)
201	Practice bombs	50.4	−30.2	20.2	Problems producing components for BDU-45 and MK76 bombs (see p. 29)
204	Airborne expendable countermeasures	25 5	•	25 5	-
205	Marine location markers	6.6	•	6.6	-
208	Jet assisted takeoff	4 1	•	4 1	-
209	GATOR	19 8	−4.6	15.2	Lower cost fuze will probably be used (see p. 34).
225	5-inch, 54-caliber gun ammunition	53 4	−7 4	46.0	High fragmentation round experiencing testing and production problems (see p 31).
227	16-inch gun ammunition	16.5	−1.6	14.9	Planned buy for submunition round will result in an inventory that exceeds requirements (see p. 35). MK15 primer program delays (see p 33)
228	CIWS	41 1	•	41 1	-
229	76-mm gun ammunition	5 9	•	5.9	-
230	Other ship gun ammunition	21.8	−1 6	20.2	Planned buy for 20-mm linked training cartridge will result in an inventory that exceeds requirements (see p. 35)
262	Shipboard expendable countermeasures	21 1	−0.7	20.4	Planned buy for MK214 SEA GNAT decoy will result in an inventory that exceeds requirements (see p. 35).
Total[a]		**469.4**	**−63.1**	**406.3**	
Total[b]		**96.9**	•	**96.9**	
Total		**$566.3**	**$−63.1**	**$503.2**	

[a]Total requested and reviewed in these budget lines

[b]Total for items in budget lines that we did not review

GAO's Recommended Adjustments to the Air Force's Ammunition Request

Dollars in millions

Budget line number	Item	Budget request	Recommended adjustments	Adjusted request	Remarks
2	2 75-inch rocket head, W.P.	$7.2	$ •	$7.2	-
12	Cartridge, 30-mm training	81.7	−12.0	69 7	Inventory will exceed needs (see p. 40).
25	Timer, actuator fin, and fuze	4.0	•	4 0	-
26	BSU-49 inflatable retarder	9.3	−2.2	7.1	Excessive procurement lead time (see p. 40)
27	BSU-50 retarder	4.3	•	4.3	-
29	Bomb, 2,000 lb hard target	32.6	•	32.6	-
33	Bomb, 25 lb practice	16 4	−5.5	10 9	Excessive procurement lead time (see p. 39)
36	Bomb, MK-84 empty	2.2	•	2.2	-
40	CBU-87, combined effects munition	277 1	−161 6	115 5	Deliveries not within funded delivery period (see p 37).
50	MJU-10B	18 6	−7.8	10.8	Deliveries not within funded delivery period (see p. 38).
59	FMU-139	40.0	•	40 0	-
Total[a]		**493.4**	**−189.1**	**304.3**	
Total[b]		**150.0**	•	**150.0**	
Total		**$643.4**	**$−189.1**	**$454.3**	

[a]Total requested and reviewed in these budget lines

[b]Total for items in budget lines that we did not review

GAO's Recommended Adjustments to the Marine Corps' Ammunition Request

Dollars in millions

Budget line number	Item	Budget request	Recommended adjustments	Adjusted request	Remarks
2	Small arms, all types	$32.7	$ •	$32 7	
3	Machine gun, all types	31 5	•	31 5	
4	Mortar, all types	122.8	•	122 8	
5	Grenades, all types	25.4	•	25.4	
6	Rockets, all types	26 4	•	26 4	
7	Training, all types	40 6	•	40.6	
8	Projectiles, 155-mm, all types	68 7	•	68.7	
9	Antiarmor ammunition, all types	36.8	•	36 8	
12	Fuzes, all types	5.2	−4 5	0.7	Planned type-classification will not support procurement (see p 42)
14	Items less than $2 million	5.9	•	5 9	
Total[a]		**396.0**	**−4.5**	**391.5**	
Total[b]		**14.8**	**•**	**14.8**	
Total		**$410.9[c]**	**$−4.5**	**$406.3**	

[a]Total requested for these budget lines We reviewed requests for items totaling $335 1 million under these budget lines

[b]We did not review the $14 8 million request for ammunition modernization

[c]Budget lines total $410 8 million because of rounding

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