

GAO

Briefing Report to the Chairman and the  
Ranking Minority Member, Subcommittee  
on Preparedness, Committee on Armed  
Services, United States Senate

November 1986

# INDUSTRIAL BASE

## DOD Efforts to Correct Deficiencies in the Ammunition Production Base



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The Honorable Gordon J. Humphrey  
Chairman, Subcommittee on Preparedness  
Committee on Armed Services  
United States Senate

The Honorable Alan J. Dixon  
Ranking Minority Member  
Subcommittee on Preparedness  
Committee on Armed Services  
United States Senate

Your February 21, 1986, letter asked us to examine ammunition production base problems and identify actions that the Department of Defense (DOD) could initiate in fiscal year 1987 to establish an industrial base capability that will meet peacetime and mobilization requirements for conventional ammunition.

As agreed with your office, we examined the Army's February 1984 Ammunition Production Base Study, which identified production base problems, and determined the status of Office of the Secretary of Defense (OSD) and Army actions to address the reported problems. We also reviewed the Army's plans for using (1) \$103.1 million in fiscal year 1986 funds for correcting mobilization production base deficiencies and (2) \$161.1 million in its fiscal year 1987 budget request for correcting mobilization deficiencies. Details regarding the results of our review are provided in appendix I, and our objectives, scope, and methodology are described in appendix II.

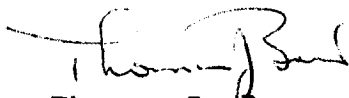
We found that the Army has identified numerous ammunition production base deficiencies, but the highest priority projects to reduce mobilization deficiencies are generally not ready for funding because the Army has not completed the necessary advance planning. Army planning and design efforts generally have focused on the ammunition production facility requirements in the Five Year Defense Plan (i.e., the peacetime procurement program) and not mobilization production needs. Consequently, the Army is not in a position to determine optimum use of available funding to reduce mobilization deficiencies and has not completed

designs for the additional production facilities needed solely for mobilization production--designs that will take 1 to 4 years to complete according to Army estimates.

OSD and the Army are conducting studies to determine what actions should be taken to address the most critical ammunition problems. For example, OSD is evaluating 64 critical munitions items to determine the top priority actions needed to resolve munitions sustainability issues. The study will assess the relationships among munitions stocks, the capabilities to produce and deliver munitions, and the consumption requirements in time of war. The Army is updating an April 1985 planning initiative and expects to use the results to support future budget requests for a mobilization production base program. However, Army representatives said the relatively low priority of these mobilization projects, when compared to other Army programs, will not allow them to effectively compete for design or construction funding. Nevertheless, in response to congressional concern, OSD included design and construction funding for mobilization projects in the fiscal year 1987 budget request.

In conclusion, the Army had not designed ammunition production base projects needed to reduce critical mobilization deficiencies because of other peacetime priorities. Therefore, the Army was unprepared to use the additional funding provided by the Congress in fiscal year 1986, as well as much of the funding requested in fiscal year 1987, to correct high priority mobilization deficiencies. We believe there is a need for the Army to begin focusing in fiscal year 1987 on identifying and designing high priority mobilization projects. Then, if additional funds become available, the projects will be ready for funding in future years.

We discussed the contents of this briefing report with OSD and Army officials and have included their comments where appropriate. We did not obtain official agency comments. Should you need additional information or have questions, please contact me on 275-4133.



Thomas J. Brew  
Associate Director

STATUS OF EFFORTS TO CORRECT DEFICIENCIES  
IN THE ARMY'S AMMUNITION PRODUCTION BASE

The Army's ammunition production base includes 28 government-owned ammunition plants as well as government-owned production equipment in numerous private sector plants located throughout the country. Seventeen of the 28 ammunition plants are in operation, and the remaining 11 would only be used during mobilization.

Numerous studies have documented problems with the ammunition production base. For example, our February 1, 1983, report, Observations Regarding the Ammunition Production Base (GAO/PLRD-83-38), pointed out that the production base had a tremendous capability and could generally produce the planned peacetime requirements for ammunition but that it lacked the capacity to produce a large part of the projected mobilization requirements for many new, more sophisticated ammunition items. We also reported that (1) some facilities could not be fully used, if needed in wartime, because of significant imbalances in capacities for producing various components required for end-item assembly and (2) many inactive production lines could not be reactivated as quickly as desired for mobilization because of equipment shortages and other deficiencies.

In 1983 the House Committee on Armed Services directed the Secretary of the Army to review ammunition production facilities to (1) determine the condition of production equipment, (2) evaluate the capacity to produce ammunition quantities required by the Five Year Defense Plan, and (3) estimate the cost of modernizing and expanding facilities that would be needed to produce ammunition to meet peacetime and mobilization production requirements through fiscal year 2000. On February 27, 1984, the Army completed its study, which concluded that much of the ammunition production base was old, that it lacked the capacity to sustain mobilization demands, and that deficiencies in production equipment at inactive production facilities would affect the ability to respond to a national emergency.

The study estimated it would cost about \$3.6 billion over the next 15 years to modernize and expand ammunition production facilities to support peacetime procurements, \$55.1 billion to modernize and expand ammunition production facilities to support mobilization requirements, and \$43.9 billion to procure ammunition for stockpiling as war reserve inventories for use during mobilization until the production base could meet the projected mobilization consumption rates. The study stressed the

need to adequately maintain existing facilities to preclude further deterioration. The \$55.1 billion cited above included \$1.7 billion for a maintenance backlog. The study pointed out that the production base could meet the Five Year Defense Plan requirements if \$1.8 billion in projects planned for the period were completed.

The Army study recommended the following actions to improve the ammunition production base so that it could meet peacetime and mobilization production needs.

- Fund the production base program as requested for peacetime requirements.
- Expand the propellant and explosives stockpile.
- Include funds for production base projects for mobilization shortfalls in the budget request, beginning in fiscal year 1987, to support a 15-year, phased plan to be developed.
- Develop a second tier of actions, requiring additional study, including a phased series of facility projects aimed at balancing capacity.

ARMY ACTIONS TO ADDRESS  
AMMUNITION PRODUCTION BASE PROBLEMS

In forwarding the February 1984 study to the House Committee on Armed Services, the Assistant Secretary of the Army (Research, Development and Acquisition) stated that a 5-year defense program, to begin in fiscal year 1987, would be developed. He said that the program would include initiatives to reduce mobilization deficiencies but that funding the initiatives would depend on priorities and availability of resources to the Army and the ammunition program. The proposed program was developed by the U.S. Army Armament, Munitions, and Chemical Command (AMCCOM) in April 1985, but it was not intended as a budgetary request. Also, the Army was not ready to request additional funding to address mobilization production base deficiencies.

AMCCOM's program, called the Initiative to Reduce Ammunition Mobilization Deficiencies, identified actions that could be taken during the first 5 years of a 15-year program to improve the preparedness of the ammunition production base. AMCCOM assumed that the 5-year period was for fiscal years 1987 to 1991 and that \$500 million in addition to the funding needed for the annual peacetime procurement programs would be available each year to reduce mobilization deficiencies.

During the first 5-year increment, AMCCOM planned to (1) reduce startup times at ammunition plants, (2) eliminate deficiencies at two propellant and explosive plants, (3) expand the production capacity for an explosive called RDX, and (4) expand the production capacity for ammunition end items to about 40 percent of the estimated monthly mobilization requirements. The first year of the program called for \$103.4 million for engineering and design.

According to Army representatives, the Army is updating the 1985 AMCCOM program by using improved cost estimates and updated mobilization requirements. The updated program will also include greater involvement by private industry in production during mobilization. The study will cover fiscal years 1988 through 1997 and will be used as a basis for requesting funds in the future budgets for the ammunition production base. However, Army representatives said that it is unlikely that any funding request for designs or facilities to correct mobilization production base deficiencies would be approved by Army Headquarters because of other higher priority deficiencies.

#### Fiscal year 1986 funding for mobilization deficiencies

Except for some funds for explosives called RDX and HMX, the Army's fiscal year 1986 budget request did not include projects to reduce mobilization deficiencies. The Senate Committee on Appropriations asked the Army to identify mobilization projects that could be implemented during fiscal year 1986 on a fixed-price contract basis. The Army identified nine projects estimated to cost \$103.1 million and the Congress provided the funding. Army representatives told us that the projects they identified did not represent the best use of the \$103.1 million. They said that those projects with the highest priority (i.e., projects to reduce mobilization deficiencies for critical components and high priority end items) had not been designed.

Funding for design work is largely limited to designing those ammunition production base projects needed to establish the peacetime production base required to produce ammunition components and end items included in the military services' approved five-year defense program. Army officials stated that designs for mobilization projects could have been completed for the highest priority mobilization projects if they had known at least 2 years ago that additional funding would be provided for them. Thus, while the Congress provided funding to address mobilization production base deficiencies, the Army had not identified the most critically needed facilities. On the other

hand, the Army mobilization projects generally were given a low priority and were not included in the Army's five year defense program. In response to congressional concern over mobilization projects, OSD included funds in the fiscal year 1987 budget for designing mobilization projects.

Fiscal year 1987 budget request for  
the ammunition production base

The Army's fiscal year 1987 budget request included (1) \$161.1 million to partially address mobilization base deficiencies (\$145.6 million for 10 facility projects and \$15.5 million for designing mobilization production base facilities) and (2) \$120.1 million in support of the planned peacetime ammunition procurement program (\$103.9 million for 10 facility projects and \$16.2 million for design work).

As of February 1986, 5 of the 10 mobilization facility projects requiring designs (\$102.8 million of the requested \$145.6 million) had no designs completed. The Army's estimate of the planned design completion dates for these five projects ranged from December 1986 to September 1988. In addition, 2 of the 10 peacetime facility projects requiring designs (\$30.6 million of the requested \$103.9 million) had incomplete designs.

Results of congressional actions on the Army's fiscal year 1987 budget request for the ammunition production base are summarized in the October 15, 1986, joint conference committee report on House Joint Resolution 738 (House Report No. 99-1005) making continuing appropriations for fiscal year 1987. Although the conferees agreed to a net increase of \$7.5 million to the Army's total production base support request, they did not provide the funds requested for six of the seven facility projects with incomplete designs. The other project with incomplete designs (a \$2 million mobilization facility project) was funded.

Requesting funds for facility projects before completion of final designs is contrary to congressional guidance. In its September 25, 1975, report on the Department of Defense Appropriation Bill for fiscal year 1976 (House Report No. 94-517), the House Committee on Appropriations stated that

"...the Committee believes...completion of final design of each modernization and expansion project prior to submission of the appropriation request will provide a more sound basis for determining the scopes of projects and estimating costs..."



On August 14, 1986, the House Committee on Appropriations in House Report No. 99-793 cited congressional guidance as the basis for recommending denial of funding for projects with incomplete designs.

According to Army Production Base Modernization Activity officials, final designs for five of the seven mobilization projects, estimated to cost \$102.8 million, were incomplete because the Army had not planned to request funds for the projects in fiscal year 1987. OSD included them in the fiscal year 1987 budget to partially address shortfalls in mobilization production facilities. Other reasons for incomplete final designs were (1) changes in processes or configurations, which, in turn, required project design changes or delays, and (2) delays in pacing manufacturing methods and technology projects.

CURRENT OSD ACTIONS TO ADDRESS AMMUNITION  
PRODUCTION BASE PROBLEMS

In February 1986, the Secretary of Defense directed an examination of munitions sustainability since, as reported by the Army in February 1984, there was such a large apparent gap between the perceived need and available resources.

The OSD study team--consisting of representatives from OSD and the military services--is evaluating 64 critical precision-guided and conventional munitions items to determine the top priority actions needed to resolve munitions sustainability issues. The team will assess the relationships among munitions stocks, the Department of Defense's capabilities to produce and deliver munitions, and the consumption requirements in time of war. Follow-on studies will be done, as needed, to determine other actions necessary to improve sustainability of U.S. forces and commitments. The OSD effort is much broader than the Army's studies since it involves the entire munitions, weapon, and logistics support structure, while the Army's studies have focused on the ammunition production base.

OBJECTIVES, SCOPE, AND METHODOLOGY

On February 21, 1986, the Chairman and the Ranking Minority Member, Subcommittee on Preparedness, Senate Committee on Armed Services, asked us to examine ammunition production base problems and identify actions that DOD could take during fiscal year 1987 to establish an industrial base capability that will meet peacetime and mobilization requirements for conventional ammunition.

As agreed, to identify ammunition production base problems, we used the Army's February 27, 1984, Ammunition Production Base Study and other studies by the Army, GAO, and others on the ammunition base. We then reviewed the Army's initiatives to address reported production base problems and discussed with OSD officials an ongoing OSD study concerning how to accelerate the production base for critical items. We also asked Army and OSD officials for their views on production base problems and actions that could be undertaken in fiscal year 1987 to begin correcting critical mobilization production base problems.

We reviewed the development of Army programs to use \$103.1 million provided by the Congress for fiscal year 1986 to correct existing mobilization base deficiencies and supporting material for the \$161.1 million in the Army's fiscal year 1987 budget request for projects to partially address mobilization deficiencies.

We discussed our results with OSD and Army officials directly responsible for maintaining the ammunition production base and have incorporated their comments where warranted. However, we did not obtain official agency comments.

We conducted our review at the Office of the Secretary of Defense, Washington, D.C.; the Army's Office of Deputy Chief of Staff for Research, Development and Acquisition, Washington, D.C.; the U.S. Army Armament, Munitions, and Chemical Command, Rock Island, Illinois; and the U.S. Army Production Base Modernization Activity, Dover, New Jersey. We performed our work from February to August 1986 in accordance with generally accepted government auditing standards.

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