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DOD ACQUISITION

Case Study of the Army Guided Anti- Armor Mortar Projectile Program



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Preface

The Chairmen of the Senate Committee on Governmental Affairs and its Subcommittee on Oversight of Government Management, asked GAO to examine the capabilities of the program manager and contracting officer in weapon systems acquisition. As part of this study GAO examined 17 new weapon system programs in their initial stages of development. These case studies document the history of the programs and are being made available for informational purposes.

This study of the Army Guided Anti-Armor Mortar Projectile Program focuses on the role of the program manager and contracting officer in developing the acquisition strategy. Conclusions and recommendations can be found in our overall report, DOD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition (GAO/NSIAD-86-45, May 12, 1986).



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Guided Anti-Armor Mortar Projectile

Origin of Start

The Guided Anti-Armor Mortar Projectile was for use in the existing 4.2-inch mortar system. It was to be capable of homing-in on enemy targets using an infrared seeker and a guidance system. Because of this feature it is commonly referred to as a fire-and-forget projectile. The High Technology Light Division (Ninth Infantry) established a formal requirement for the Guided Mortar on January 12, 1982 when it issued a Quick Reaction Plan (approved April 1983). The Army refers to various studies to support the need for the Guided Mortar. These studies include a Top Attack system/concepts study, a Close Combat (Light) Mission Area Analysis and an Air Land Battle 2000 study. A Mortars in Combat Units Study and a cost effectiveness analysis, also supported the Guided Mortar because of its potential as a force multiplier.

Early Program Planning

In March 1982 a contracting officer was assigned to the Guided Mortar program which was emerging at the Army's Research and Development Center, Dover, New Jersey. The contracting officer had experience as a contract specialist for 19 years, and a contracting officer for 2 years. His formal education included a master's degree with a major in government acquisition.

The contracting officer and the "then" future program manager were involved early in the program as members of a team charged with planning the Guided Mortar program. Team members met at various times through June 1983 to discuss time frames, proposed acquisition strategies, contract types, relationships with contractors, and applicable procurement regulations.

Acquisition Strategy Developed

The acquisition strategy for the Guided Mortar program was prepared by Center staff at the Large Caliber Weapon Systems Laboratory. It specified that

- engineering development contracts be awarded to at least two contractors and that these contractors build Guided Mortars for development and operational testing, and
- the contractor with the best design be awarded a production quantity and a small learning quantity contract be awarded competitively, using the design selected, to ensure a second source

The strategy also allowed both contractors the flexibility to make decisions on the best technical approach to meeting system requirements. However, after the contractors selected an approach, the government

and contractors were to perform as a team to ensure technical progress. Close monitoring, for example, would involve producibility and affordability aspects of the developing system and ensure that contractor-unique configurations would not be introduced in lieu of commercially available components.

After this strategy was approved by the Center's Technical Director in June 1983, an acquisition plan was prepared. Neither the "then" future program manager nor the contracting officer assisted the Laboratory staff in preparing this plan.

Designation of a Program Manager

In September 1983, the Laboratory designated the Guided Projectile's section chief as the program manager. He was a civilian (GS-15) with more than 30 years experience in applied sciences, but no previous experience as a program manager. His knowledge of program administration came from involvement in a Center Executive Fellowship Program and his formal education (Bachelor of Science in Physics and a Master of Business Administration).

The program manager was not issued a charter formalizing his role. He said a charter, if issued, would be signed by the Center commander. It is not clear why the manager was not issued a charter, however, he speculated that indecision over whether the Guided Mortar would be designated as a major program on which the Secretary of Defense makes milestone decisions, and the issuance of a charter were closely related. The manager said that a charter for a major program would be issued by the Secretary of the Army, and that a military officer would probably replace him as the program manager. In any event, the program manager said his position as chief of his section provided him the authority and resources to manage the program. The program manager added that although he did not participate in drafting the acquisition plan, he presented the plan at Armament, Munitions and Chemical Command headquarters, Rock Island, Illinois. He and the contracting officer obtained approval for the plan from the Command's deputy commanding general. Subsequently, it was submitted to the Army Materiel Command for approval.

Events Leading to Program Contract Award

On September 29, 1983, the Defense Ammunition Council reached a conclusion that the Guided Mortar program would meet the Ninth Infantry Division's needs. This support by the Council, according to the contracting specialist, was the Procurement Directorate's signal to begin the

request for proposal process. The Laboratory staff provided a statement of work to the contracting officer, through the program manager, and his staff reviewed the work statement for restrictive language which could constrain the competition in the program. He also said the scope of work reflected his understanding of the Quick Reaction Plan established by the Ninth Infantry Division. He was not involved in the Plan's development. He worked with the contracting officer to develop the request for proposal's business terms and conditions. The contracting officer noted that they had limited flexibility in this effort because procurement regulations and local policies are quite specific on what the request for proposal and ultimately the contract are to contain. The completed request for proposal was approved by the Command at Rock Island in March 1984 and was issued on April 2, 1984.

The Procurement Directorate received proposals from Boeing, Raytheon, and General Dynamics on June 11, 1984. On June 12, 1984, a Source Selection Board was convened to evaluate the proposals. The program manager was chairman of a team responsible for evaluating technical aspects of the proposals while other teams evaluated proposed costs and contractor management. The Procurement Directorate's pricing staff evaluated the proposed Guided Mortar program costs to determine whether they were realistic. The source selection and evaluation process were spelled out in a Source Selection Plan developed jointly by the contracting officer and program manager. It included technical criteria the program manager provided to the Procurement Directorate. This process led to a request for the contractors to provide best and final proposals. These proposals, requested by the contracting officer, were received on September 7, 1984. The Board selected two contractors and contracts were scheduled to be awarded on September 21, 1984.

Program Cancellation

The Center's Procurement Directorate was told not to award the contracts as planned, and the Guided Mortar program was subsequently cancelled on September 24, 1984. An official from the Office of the Secretary of the Army said the Army Chief of Staff made a decision to replace the 4.2-inch (107-mm.) mortar system with a 120-mm. mortar system. He made this decision, according to the official, because the 120-mm. mortar system would be more effective and more consistent with NATO forces. Other factors contributing to the program's cancellation, according to this official, were the changing role of mortar systems, the potential for other weapons to perform the Guided Mortar's mission, its limited range, and budget constraints.

Evaluation of Roles and Acquisition Strategy

While DOD gives the program manager responsibility for formulating the acquisition strategy, a program manager was not formally assigned to the Guided Mortar program early enough to be responsible for developing the acquisition strategy. However, the program manager was a member of the Laboratory team which developed the program's acquisition strategy. After being designated program manager, he participated in developing the Source Selection Plan and request for proposal.

The contracting officer was assigned soon after a requirement (Quick Reaction Plan) for the Guided Mortar was issued by the Ninth Infantry Division. The contracting officer had no input into the requirements document but participated in early acquisition strategy meetings providing advice on such things as the planned competition and type of contract used. During the strategy's implementation, the contracting officer participated in developing the request for proposal and had a limited role in developing the Source Selection Plan. The Procurement Directorate of which the contracting officer was a member had overall responsibility for the process.

Acquisition Strategy

DOD policy calls for competition up to full-scale development and beyond if cost effective. The planned Guided Mortar program acquisition strategy was responsive to this policy—it called for at least two competing contractors to develop and produce the system.

Present Status

The contract specialist stated that although the Guided Mortar was no longer required, there is a new requirement for a two-color, infrared seeker. This seeker would be developed for use in mortars, the Copperhead 155-mm. projectile, the Joint Tactical Missile System, and a 105-mm. projectile. The specialist also said the contracts the Army planned to award on September 21, 1984, were modified to develop only a seeker component. Two contracts were awarded; one to General Dynamics on July 25, 1985 and the other to Raytheon on August 12, 1985. Both contracts are estimated to cost \$1.5 million and cover a 1 year time frame.

According to the contract specialist, an acquisition plan for the revised program is not required, because of the low dollar amounts involved. However, the planned strategy is to emphasize competition and maintain a close working relationship between the contractors and the Army.

Chronology of Events

January 1982	High Technology Light Division issues a Quick Reaction Plan establishing a requirement for the Guided Mortar.
March 1982	Contracting officer assigned to the program.
June 1983	Acquisition strategy approved by Dover Center Technical Director.
September 1983	Program manager designated. Defense Ammunition Council concludes the Guided Mortar will meet the Ninth Infantry Division's needs.
April 1984	Request for proposal issued.
June 1984	Contractors submit proposals. Source Selection Board convened to evaluate the contractors' proposals.
September 1984	Contractors provide "best and final" proposals. Award of full-scale development contracts to two contractors scheduled. Guided Mortar program cancelled.
July 1985	Contract issued to General Dynamics for a two-color, infrared seeker component.
August 1985	Contract issued to Raytheon for a two-color, infrared component.

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