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DOD ACQUISITION

Case Study of the Navy CV Inner Zone Anti-Submarine Warfare Helicopter 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 major 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 Navy Inner Zone Anti-Submarine Warfare Helicopter 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).

for Frank C. Conahan, Director
National Security and International
Affairs Division

CV Inner Zone Helicopter

Origin of the Program

The Navy initiated the Aircraft Carrier (CV) Inner Zone Anti-Submarine Warfare Helicopter Program to provide a weapon system to be used in antisubmarine warfare by carrier battle groups. The Inner Zone Helicopter will provide a fast reaction, highly mobile sonar and homing torpedo delivery capability for detecting, localizing, and attacking enemy submarines that enter the high noise environment of the carrier battle group inner zone. The Inner Zone Helicopter will also perform search and rescue missions.

Discussions between top level Naval Air Systems Command officials and the Office of the Chief of Naval Operations about a replacement for the SH-3 antisubmarine warfare helicopter began in the 1970s; however as the SH-3 helicopter was not nearing the end of its service life, the Navy did not propose the program as a new start until May 1981.

The Inner Zone Helicopter Program, known as the SH-60F, began in May 1981 when the Navy proposed it as a fiscal year 1983 new start. The Deputy Secretary of Defense approved the program as a new start in a Program Budget Decision of December 19, 1981. As originally planned, the SH-60F was to replace the SH-3H helicopters with a variant of the Light Airborne Multipurpose System (LAMPS) MK III (SH-60B) helicopter.

The SH-60F program was based on the following factors:

- The SH-60F would be off-the-shelf and require only minor research and development for equipment modifications.
- The SH-60F would meet all the essential criteria and performance parameters for the inner zone antisubmarine warfare mission.
- The SH-60F would meet the initial operational capability requirement.
- With the SH-60F aboard as part of its complement, the carrier battle group would also be able to provide intermediate level maintenance and supply support to the SH-60B aircraft on accompanying surface ship escorts.
- SH-3s relieved of carrier duty could be reassigned to shore station utility/support roles commencing in 1990 and alleviate the asset shortfall in that mission area.

Formation of the Program Office

On February 10, 1982, the Chief of Naval Operations directed the Chief of the Naval Materiel Command to establish the Inner Zone Helicopter program office. According to the program manager, when the need to replace the SH-3 helicopter was established, several options were considered, including restarting the closed SH-3 line and designing a new

aircraft, possibly with another service. The Navy finally decided that a modified aircraft would best meet its needs at the least cost.

First Program Manager Appointed

The Naval Air Systems Command established the Inner Zone Helicopter project as an element of the LAMPS MK III program office and placed it under the direction of the LAMPS program manager. He has a bachelor's degree in english and was a test pilot with operational experience flying inner zone helicopters. His acquisition experience includes several assignments in Naval Air Systems Command as both a program manager and technical advisor for all helicopters, and he was the LAMPS MK III program manager at the time he assumed the additional duties as the Inner Zone Helicopter program manager. His formal academic acquisition training consists of the Naval Post Graduate School systems acquisition management curriculum where he earned a master's degree in acquisition management.

Although the Inner Zone Helicopter Program was the ultimate responsibility of the LAMPS MK III program manager, the deputy program manager was in charge of the Inner Zone Helicopter Program during the early stages. The deputy program manager holds a bachelor's degree in naval science and a master's degree in administration. He is a test pilot with operational experience flying inner zone antisubmarine warfare helicopters. His prior acquisition experience was primarily in testing and evaluation.

Development of the Contracting Strategy

This acquisition was planned as a product modification acquisition. The Navy felt that since it had just completed the development of the LAMPS MK III Helicopter, which performs an antisubmarine warfare mission similar to the Inner Zone Helicopter, it would be a logical, evolutionary decision to adapt it for the Inner Zone Helicopter mission.

The program was originally developed as a direct offshoot of the LAMPS program and did not include a plan for competition. In the opinion of the deputy program manager, the decision to use a sole-source derivative aircraft procurement made the best business sense because (1) $750 million had just been spent to convert the UH-60A to the LAMPS MK III SH-60B, (2) using related technologies would make the development and acquisition less complicated, and (3) it was the most affordable and cost effective solution, given funding constraints.

In addition, there were life-cycle cost considerations. High dollar savings would result from using similar trainers, publications, and training facilities as the LAMPS MK III. Moreover, economies of scale could be achieved with about 80 percent commonality between the two helicopters, and thus greater efficiency in the logistics and maintenance areas.

The program manager believed that significant dollar savings could be realized through the selection of the SH-60F derivative helicopter over other alternatives. He felt that developmental costs could be held to 1 to 2 percent of the total acquisition cost instead of the more usual 8 to 10 percent

According to the current program manager, his job was to execute the program as ordered. To accomplish this, his duties included assembly of schedules and budgets to support the program, development of program documentation, and coordination with the Office of the Chief of Naval Operations.

According to the program manager, since the program did not have a contracting officer formally assigned at this time, the Naval Air Systems Command Assistant Commander for Contracts advised the program manager on contractual and business matters.

On April 28, 1982, the draft operational requirement was submitted to the Chief of Naval Operations for approval. According to an official formerly in the Office of the Chief of Naval Operations, this draft operational requirement had originated in the fleet as a product modification requirement because the antisubmarine warfare community which had drafted the requirement felt that it was the most cost effective way to obtain the needed system.

The Secretary of Defense initiated the Inner Zone Helicopter Program as a fiscal year 1984 new start in a Program Decision Memorandum on August 11, 1982.

The current program manager said the first program manager developed the technical requirements and scheduled the delivery requirements for the Justification of Major Systems New Start which was issued on August 17, 1982.

The original operational requirement for the Inner Zone Helicopter was issued in September 1982. Also in September, the Navy budget limited

the research and development costs for the Inner Zone Program to $75 million.

In a Chief of Naval Operations Executive Board Decision Memorandum of May 1983, the Chief of Naval Operations endorsed the SH-60F program objectives and increased the research and development funding to $85.8 million.

At a Department of the Navy Systems Acquisition Review Council I/II meeting in May 1983, the program manager briefed the Council on the Inner Zone Helicopter acquisition as a full-scale development effort. Information concerning such matters as the requirement for the Inner Zone Helicopter and the alternatives to satisfy the operational requirement were discussed.

The Council concluded that the Navy did not need to initiate a full-scale development effort and that a product modification would satisfy the Inner Zone need. In addition, the Assistant Secretary of the Navy (Research, Engineering and Systems) requested that the data concerning the cost of restarting the SH-3H line and the rationale for discarding alternatives other than the SH-60F be provided to him.

On June 2, 1983, the Assistant Secretary of the Navy (Research, Engineering and Systems) directed that the program follow a product modification contract approach and unique research, development, test and evaluation funding was reduced to $55 million.

According to the program manager, at the Defense Systems Acquisition Review Council I/II meeting held on June 28, 1983, the acquisition strategy was verbally approved pending resolution of the cost effectiveness issue of the Inner Zone Program. According to an Office of the Secretary of Defense official, this cost effectiveness issue dealt with the Navy's total antisubmarine warfare strategy and the relative priorities of the Navy's antisubmarine warfare program.

Contracting Officer Appointed

The LAMPS MK III contracting officer assumed the additional duties as the Inner Zone Helicopter Program contracting officer in August 1983. He has a Master of Business Administration in Contracts and had about 15 years experience in procurement at the time of his appointment as the Inner Zone Helicopter contracting officer.

Acquisition Approach Changed

For fiscal year 1984, the Navy earmarked $18.7 million for the development of the SH-60F. However, the Defense Resources Board froze the funds in Program Budget Decision 242R of December 29, 1983. The Board directed that the acquisition strategy be modified to allow for full competition. According to an official at the Office of the Under Secretary of Defense (Research and Engineering), the Defense Resources Board ordered the competition because they felt the cost for the program was too high.

The decision to compete the program was made by the Defense Resources Board and the Naval Air Systems Command Competition Advocate did not play a role in this decision. The only Navy personnel on the Board were the Secretary of the Navy and the Chief of Naval Operations; no Naval Air Systems Command program officials were present. While no specific reasons were enumerated, the program manager believed the change was made to comply with a presidential policy letter encouraging competition whenever possible.

According to an Office of the Secretary of Defense official, the Office of the Secretary of Defense had problems with the Navy's antisubmarine warfare program priorities. This Office believed that the Navy was placing too much emphasis on close-in antisubmarine warfare priorities and not enough on area-wide coverage. The cost of the helicopter program was also a reason for concern, but subsequently, with the competition and the resultant drop in the cost of the program (see p. 10), this concern was alleviated.

The program manager and contracting officer worked together to develop a fully competitive acquisition strategy. The program manager provided the overall guidance for the effort and coordinated with the other functional groups in the Naval Air Systems Command. The contracting officer said he provided input on the contractual and business aspects for the strategy.

On February 13, 1984, the Assistant Secretary of the Navy (Research, Engineering and Systems) directed the program to structure a competition to select a prime contractor for the Inner Zone Helicopter. According to the program manager, with the advent of the directive to go with a full competition, development of a competitive request for proposals became the responsibility of the Naval Air Systems Command Evaluation Division.

On March 9, 1984, a revised operational requirement was approved by the Office of the Chief of Naval Operations. According to the program manager, this revision was necessary because with an open competition, all references to a variant of the SH-60 aircraft had to be deleted. According to the former program sponsor, the first program manager had the lead role in revising of the original operational requirement that had been drafted in the fleet. Also in March, the Defense Resources Board released about $3 million of the funds it had frozen in December 1983.

Source Selection Begins

A formal source selection process was conducted. The Commander, Naval Air Systems Command was appointed as the source selection authority. In addition, a source selection evaluation board and a source selection advisory council were appointed.

During source selection, the program manager said he acted as an advisor to both the advisory council and evaluation board. The contracting officer was a member of the evaluation board and was an advisor to the advisory council.

The head of the Naval Air Systems Command Evaluation Division coordinated the development of the source selection plan. The program manager and contracting officer had only advisory roles in the development of the source selection plan. The engineering group developed the specifications for the system, and again the program manager and contracting officer had advisory roles in the development of the specifications.

The announcement for the Inner Zone Helicopter competition was published in the Commerce Business Daily on March 30, 1984.

Acquisition Strategy Approved

On April 2, 1984, the official acquisition strategy (A4F-01-1-30) was signed by the Commander, Naval Air Systems Command and submitted to the Chief of Naval Material for approval.

According to the program manager, the basic change in the strategy from the draft was from a directed sole-source procurement to a fully open competitive strategy in which offerors were free to propose any system they felt would meet the need.

The Deputy Secretary of Defense signed a Decision Memorandum directing competition on May 2, 1984.

Second Program Manager Appointed

In May 1984, the first program manager retired from the Navy after 30 years service and was replaced by the current program manager. The second program manager has both an extensive acquisition background as a program manager in several programs and operational experience as an inner zone helicopter pilot. He has a bachelor's degree in mechanical engineering and graduate degrees in management and aeronautical engineering. He has completed the Executive Refresher Course at the Defense Systems Management College as well as courses at the Naval Post Graduate School and is designated as a Weapon Systems Acquisition Management qualified procurement official.

Request for Proposals Released

The request for proposals was released to industry on June 19, 1984. To produce the request for proposals in a relatively tight time frame, the program manager and contracting officer formed a close working relationship and coordinated with each other to get the job done. Although the request for proposals was the primary responsibility of the contracting officer, the program manager helped the contracting officer expedite the request for proposals through the release process.

The program manager and contracting officer both agree that the request for proposals did not contain any restrictions on the contractors and was as open as possible. The request was for a total system and contractors were free to propose any solution they felt would satisfy the need.

In August 1984 the Chief of Naval Materiel approved the Inner Zone Helicopter Program acquisition strategy.

Proposals Received

By August 20, 1984, four proposals were received. The Navy evaluated these proposals and found that two of them were only for a portion of a system, not complete systems. These proposals were immediately disqualified for not being responsive to the request for proposals. The remaining proposals were from Sikorsky Aircraft Company (for a derivative of the SH-60 helicopter) and Kaman Aerospace Corporation.

Funding Discussions Held

For fiscal year 1985, the Senate recommended $25 million while the House recommended $20 million for research and development funding for the program.

The Defense Authorization Act of 1985, approved October 19, 1984, states:

"$25,016,000 is available only for the development of a derivative of the Navy SH-60 helicopter for the aircraft carrier inner-zone anti-submarine warfare helicopter mission,"

According to an official in the Office of the Assistant Secretary of the Navy, the Authorization Act of 1985 directed that a derivative aircraft be procured because in terms of cost, it was the only appropriate approach.

Subsequent to the Defense Authorization Act, the appropriations committees agreed in conference to appropriate only $20 million for research and development for the Inner Zone program. This was less than the $35 million funding requirement established by the Navy. However, $15.7 million which had been held over from fiscal year 1984 was released by the Office of the Secretary of Defense for obligation in fiscal year 1985, thereby satisfying the Navy's funding requirement.

Proposals Evaluated

Because the competition was nearly complete, DOD allowed the competition to continue. From August 20, 1984, until November 7, 1984, a team evaluated the remaining two proposals against the criteria outlined in the request for proposals, and made a competitive range determination. On November 7, 1984, the source selection authority announced that the Sikorsky Aircraft Company had submitted the only proposal that was in the competitive range.

According to program officials, the selection authority, after consulting with the advisory council and evaluation board, determined that the Kaman Aerospace Corporation proposal, regardless of the degree to which it could be corrected, would not have a reasonable chance to win the competition.

From November 7, 1984, until February 28, 1985, the contracting officer conducted a series of negotiations with Sikorsky about technical and cost issues. These negotiations resulted in some changes made by the contractor, and on February 28, 1985, the Navy signed a letter contract

for the Inner Zone Helicopter development and five production lots of the aircraft.

Also in February 1985, in accordance with section 797 of Public Law 98-212, the Navy submitted a certification to Congress that competitive production for the Inner Zone Helicopter Program would not be conducted, as the quantities to be acquired were not sufficient to warrant a second source.

Program Costs Lowered

At a fiscal year 1983 Defense Systems Acquisition Review Council meeting, the program manager estimated that the cost for the Inner Zone Helicopter Program would total $4.6 billion. In March 1985, the program manager estimated the total program cost to be about $3.16 billion, a reduction of about $1.4 billion.

Contractor Comments

In response to our inquiry as to the effectiveness of the competition, Kaman Aerospace Corporation said that they did not take exception to the request for proposals or contractual arrangement used during solicitation to promote competition. The Navy allowed an open solicitation and thus presented Kaman with an opportunity to bid on the program Kaman felt the work statement and business terms were essentially lifted from prior solicitations, but that they were sufficiently informed and capable of a professional response. Kaman also stated that the technical statement of work was thoughtfully put together.

Evaluation of Roles and Acquisition Strategy

In the Inner Zone Helicopter Program, the program manager had the lead role in developing the contracting strategy in conjunction with representatives from the contracts group and other groups within the Naval Air Systems Command. The program manager was primarily responsible for coordinating the development and processing of the strategy through the various Naval Air Systems Command groups which provided expertise in specific technical areas such as contracting and engineering.

At the time of strategy formulation, the contracting officer was not assigned to the Inner Zone Helicopter Program and therefore did not participate in developing the contracting strategy. Information concerning the business and contractual matters for the Inner Zone Program was provided by the Naval Air Systems Command Assistant Commander for Contracts.

Top management played a part in the development of the Inner Zone Program by directing changes to the program. The first significant change was when the Navy Systems Acquisition Review Council changed the initial full-scale development strategy to a product modification approach. Subsequently, the Defense Resources Board directed that a full competition be conducted for the Inner Zone Helicopter.

Later, after the Navy started a competition for the Inner Zone Helicopter, the authorization committees directed the Navy to acquire a variant of the LAMPS MK III helicopter. The Navy continued with the competition and in the end selected Sikorsky's proposal, which was the original modified aircraft design, as the winner. According to the program manager, the competition reduced the cost of the system by about $1.4 billion.

As a result of the directive to compete the program, the operational requirement had to be rewritten to delete any references to the SH-60 helicopter. According to an official formerly in the Office of the Chief of Naval Operations, the original operational requirement had been developed in the fleet by the antisubmarine warfare community who felt that at the time, a product modification would satisfy the Inner Zone program requirements.

Funding has not been identified as a major problem for the Inner Zone Helicopter Program, but officials in the Office of the Secretary of Defense delayed their approval of the program while different affordability and antisubmarine warfare priority issues were clarified.

Present Status

The Navy signed a letter contract with Sikorsky on February 28, 1985, for the Inner Zone Helicopter development on a firm fixed price contract basis, and is currently in the full-scale engineering development phase.

Chronology of Events

May 1981	Navy proposed Inner Zone Helicopter as fiscal year 1983 new start.
December 1981	Secretary of Defense approved Inner Zone as a fiscal year 1983 new start.
January 1982	Inner Zone included in President's budget for fiscal year 1983.
February 1982	Naval Air Systems Command established Inner Zone Helicopter project office under the LAMPS program manager.
April 1982	Program manager appointed. Operational requirement issued.
May 1982	Office of the Secretary of Defense slipped the program to fiscal year 1984 new start.
August 1982	Secretary of Defense approved Inner Zone as fiscal year 1984 new start. Justification of Major Systems New Start issued.
September 1982	Inner Zone Helicopter revised operational requirement issued.
May 1983	Chief of Naval Operations endorsed the SH-60F program objectives. Department of the Navy Systems Acquisition Review Council approved procurement of SH-60F from a particular source, but changed development concept from full-scale development to product modification.
June 1983	Defense Systems Acquisition Review Council recommended proceeding with the SH-60F directed source product modification.

August 1983	Contracting officer appointed.
March 1984	Revised operational requirement approved by the Office of the Chief of Naval Operations. Inner Zone Helicopter announced in Commerce Business Daily.
April 1984	Acquisition strategy signed by Commander, Naval Air Systems Command.
May 1984	Deputy Secretary of Defense Decision Memorandum directing competition signed Cost effectiveness issue of Inner Zone investment appeared to be resolved. Second program manager appointed.
June 1984	Request for proposal for Inner Zone Helicopter released to industry.
August 1984	Acquisition strategy approved by the Chief of Naval Materiel. Proposals received from industry.
October 1984	Congress directed development of derivative of SH-60 helicopter.
November 1984	Competitive range established. Sikorsky proposal only one in competitive range.
February 1985	Contract for full-scale engineering development signed with Sikorsky Aircraft Company.

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