



Highlights of [GAO-07-759](#), a report to Subcommittee on Air and Land Forces, Committee on Armed Services, House of Representatives

Why GAO Did This Study

Active Protection Systems (APS) protect vehicles from attack by detecting and intercepting missiles or munitions. In 2005, the lead systems integrator for the Army's Future Combat Systems (FCS) program sought proposals for an APS developer and design and to deliver APS prototypes on vehicles by fiscal year 2009. Raytheon was chosen the APS developer. At the same time, the Department of Defense's Office of Force Transformation (OFT) evaluated near-term APS for potential use in Iraq.

GAO was asked to review the Army's actions on APS/FCS: (1) the process for selecting the subcontractor to develop an APS for FCS and if potential conflicts of interest were avoided; (2) the timing of the trade study and if it followed a consistent methodology to evaluate alternatives, and the results; (3) the role the Army and Boeing played in selecting the developer; and (4) the process followed to provide a near-term APS solution for current forces.

What GAO Recommends

GAO recommends that the Secretary of Defense support additional testing and demonstration of APS systems to help develop tactics, techniques, procedures, and concepts of operations for active protection systems and provide useful data on the use of APS. DOD did not agree to support such testing.

www.gao.gov/cgi-bin/getrpt?GAO-07-759.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Paul Francis at (202) 512-4841 or francispg@gao.gov.

DEFENSE ACQUISITIONS

Analysis of Processes Used to Evaluate Active Protection Systems

What GAO Found

In selecting the APS developer, the Army and Boeing—the FCS lead systems integrator—followed the provisions of the FCS lead systems integrator contract, as well as the Federal Acquisition Regulation, in addressing organizational conflicts of interest. No officials from the offering companies participated in the evaluation and all offerors were evaluated based on the same criteria. Four proposals were evaluated and three were determined to be comparable in terms of cost and schedule. The winner—Raytheon—was chosen on technical merit, as being more likely to meet APS requirements although its design had less mature technology.

The APS development contract required the source selection winner to perform a trade study to assess alternatives and select the best design for development, and the Raytheon design was chosen. The trade study applied a consistent methodology to all alternatives before selecting Raytheon's vertical launch design. While the role played by Raytheon in the trade study was in accordance with its contract, the rationale for having the trade study follow the source selection is not entirely clear. The purpose of the trade study was to select the best concept; yet the source selection process that preceded it had, in fact, chosen Raytheon primarily on the technical merits of its vertical launch design concept. Although the vertical launch technology is not mature, the Army estimated that it could be available for prototype delivery to current force vehicles in fiscal year 2009 and tested on a FCS vehicle in 2011. This may be an optimistic estimate, as the FCS vehicle is yet to be fully developed.

The Army and Boeing were extensively involved in APS source selection and the trade study. FCS officials actively participated and concurred in the final selection of the APS developer. FCS officials and technical experts from Army research centers took part in the trade study and helped choose the vertical launch design. Boeing officials took part in various ways and, with the Army's concurrence, selected Raytheon as the APS developer, participated in the trade study, and recommended the vertical launch approach.

In its pursuit of a different APS concept, OFT was responding to an urgent need statement issued by the Central Command with potential for near-term fielding. This evaluation centered on the results of physical testing of the most technically mature candidate system, the Trophy. Decisions on how to proceed with Trophy involved disagreement between OFT and the Army. While the Trophy tests were successful, the Joint Rapid Acquisition Cell decided to defer fielding the APS system, based in part on the recommendation of Army officials, who believed that testing had not been realistic and integrating it on the platform would delay fielding other useful capabilities. OFT officials proposed additional testing of Trophy to answer these questions, but funding for further OFT testing of this system was discontinued after the Joint Rapid Acquisition Cell's decision.