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General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-274602

August 14, 1997

The Honorable William S. Cohen
The Secretary of Defense

Subject: Navy Aviation: F-14 Modernization Initiatives Should Enhance the
Aircraft's Operational Performance

Dear Mr. Secretary:

This letter is to inform you that we have completed our review of the Navy's efforts to modernize the F-14 fleet. This letter discusses the Navy's modernization initiatives. We found that in making these modifications, the F-14 community used effective acquisition initiatives. Therefore, we are making no recommendations.

BACKGROUND

The F-14 Tomcat has been the Navy's premier air defense fighter for over 20 years. In May 1994, in response to a requirement contained in the Fiscal Year 1994 Defense Authorization Act (P.L. 103-106, section 128), the Navy advised the congressional defense committees that the F-14 fleet would be retained to 2010. At that time, the Navy would begin to retire the F-14s and replace them with the next generation fighter, the Joint Strike Fighter. Under the Navy's 1994 plan, which was reiterated in the Department of Defense's March 1996 Annual Report to the President and the Congress, retirement of the F-14 would be completed in 2016.

The Navy has altered its plan, and it now intends to begin retiring the F-14s in 2001 and replacing them with F/A-18E/Fs rather than waiting to replace them with the Joint Strike Fighter. Under the current plan, according to F-14 program officials, retirement of the F-14s will be completed in 2007 instead of in 2016.

F-14 MODERNIZATION INITIATIVES

The Navy has upgraded the multirole capabilities of the F-14 by providing it with a precision-strike capability (LANTIRN), a digital flight control system, and an enhanced reconnaissance capability.

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LANTIRN

In providing the F-14 with a precision-strike capability, the Navy adapted off-the-shelf technology by using the Air Force's Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) system targeting pod. This system provides laser targeting for precision-guided weapons. It is a stand-alone system, which reduces the need for, and avoids the costs of, software modifications and extensive flight testing. According to F-14 program officials, using the LANTIRN system reduced acquisition costs by almost \$200 million and resulted in providing the F-14 with precision-strike capability about 2 years earlier than would have otherwise been possible. Aircrews flying LANTIRN-equipped F-14s during their first carrier deployment (aboard the U.S.S. Enterprise, June-December 1996) reported that the system was able to detect targets at longer ranges and operated at higher altitudes than the F/A-18C equipped with its current targeting forward looking infrared (FLIR) system. Since April 1997, carrier battle groups have deployed with LANTIRN-equipped F-14s.

Digital Flight Control System

Current F-14s, equipped with an analog flight control system, have demonstrated undesirable flying characteristics that have contributed to numerous out-of-control flight incidents and aircraft losses. The F-14's operational advisory group, representing the fleet operators, identified the flight control system as a safety-of-flight priority. The Navy's F-14 community is adapting an off-the-shelf Digital Flight Control System (DFCS) in the aircraft. According to the Navy, DFCS, built by GEC-Marconi Avionics Ltd. of the United Kingdom, is expected to correct the current flight control system's deficiencies by limiting the pilot from flying the aircraft in a manner that makes it unstable or that will cause the engine to stall. If the aircraft does enter into a spin, the system is designed to send commands to the aircraft's controls that will help the pilot recover from the spin. According to the F-14 program office, DFCS will also improve the F-14's flying characteristics during carrier landings. The Navy, according to F-14 program officials, plans to procure about 200 DFCSs for F-14s, at a total cost of around \$84 million, and to install the systems from June 1998 through October 2000.

Tactical Air Reconnaissance Pod System

The F-14 uses the Tactical Air Reconnaissance Pod System (TARPS) to perform its reconnaissance missions. The Navy is improving TARPS to include a digital imaging (DI) system that can be inserted in place of the pod's forward-looking photographic camera. This commercial, off-the-shelf digital system is used to

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transmit near-real-time imagery, via secure UHF radio, to the battlefield commander. Since May 1997, carrier battle groups have deployed with F-14s that have TARPS-DI capability. According to the F-14 program office, the total estimated cost of this program is \$8.6 million.

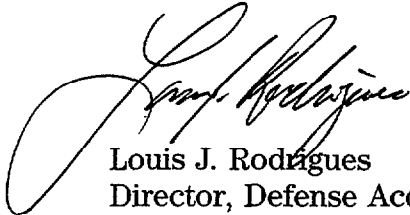
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We appreciate the assistance provided to our staff during this review. The F-14 program office reviewed a draft of this letter and we have incorporated its comments as appropriate.

We are sending a copy of this letter to the Secretary of the Navy and to the cognizant congressional committees. We will make copies available to others on request.

Please contact me at (202) 512-4841 if you or your staff have any questions concerning this letter.

Sincerely yours,



Louis J. Rodrigues
Director, Defense Acquisitions Issues

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