

## T-6 Avionics Upgrade Program (AUP)

### Executive Summary

- The Navy intends to replace approximately 249 legacy T-34C aircraft with the T-6 Avionics Upgrade Project (AUP) aircraft (designated as the T-6B) for Navy primary pilot training.
- The Navy awarded a limited production contract in August 2009 for nine aircraft. The full production contract for the T-6B was awarded October 29, 2009.

### System

- The Joint Primary Aircraft Training System (JPATS) is a system-of-systems for primary flight training, tailored to meet Air Force and Navy initial pilot training requirements.
- The JPATS consists of the T-6A/B Texan II air vehicles, simulators, and associated ground-based training devices; a Training Integration Management System; instructional courseware; and contractor logistics support.
- The Air Force has replaced the T-37B aircraft with the T-6A aircraft and the Navy will replace approximately 249 legacy T-34C aircraft with the T-6B aircraft. Both Services are replacing their associated ground-based training components.
- The Navy T-6B aircraft incorporates the AUP that was developed by the manufacturer as a company funded, independent research and development effort. The AUP replaces the cockpit displays in the T-6A aircraft with multi-functional displays; adds up-front control panels, two Integrated Avionics Computers (with GPS and a flight management system), an inertial reference system, integrated backup flight instruments, and a heads-up display (HUD).
- The T-6B includes structural enhancement of the fuselage, increasing the operational gross weight of the aircraft.
- The Navy anticipates the AUP will mitigate component obsolescence risks and comply with future Federal Aviation Administration (FAA) mandated navigational requirements.

### Mission

- The Air Force, Navy, and Marine Corps use JPATS aircraft to train entry-level student pilots in primary flying skills to a



level of proficiency at which they can transition into advanced training.

- The Navy intends to transfer some T-45 advanced jet training curriculum to the T-6B aircraft.

### Prime Contractor

- Hawker Beechcraft Corporation, Wichita, Kansas

### Activity

- DOT&E approved Annex I to the JPATS Test and Evaluation Master Plan in September 2008. The annex incorporated a Developmental T&E (DT&E) phase with assistance from operational testers (termed "DT&E Assist") and an Operational Assessment. These test efforts have been completed.
- The Navy plans to accomplish DT&E and DT&E Assist testing for the T-6B Deferred Software Load (DSL) in

2QFY10. The DSL includes functionality for the HUD and FAA-certified software enhancements.

- The Navy will conduct a formal FOT&E of the T-6B beginning 4QFY10. The FOT&E will include an end-to-end system-level operational test of the T-6B aircraft, simulators, and courseware with a class of students.

# NAVY PROGRAMS

- The Navy awarded a limited production contract in August 2009 for nine aircraft. The full production contract for the T-6B was awarded October 29, 2009.

## **Assessment**

- Testing has demonstrated adequate system performance of all of the AUP subsystems; however, a complete assessment of the HUD could not be accomplished because the DSL was not available.

- The T-6B AUP aircraft provides significant improvement in situational awareness and avionics interfaces for the air crew and improved system redundancy compared to the T-6A aircraft.

## **Recommendations**

- Status of Previous Recommendations. The Navy is addressing all previous recommendations.
- FY09 Recommendations. None.