

## E-4B National Airborne Operations Center (NAOC)

### Executive Summary

- Developmental testing combined with operational testing identified a number of deficiencies during FY06.
- The majority of deficiencies were corrected and operational testing completed in July 2006. Data analysis is ongoing.

### System

- The E-4B National Airborne Operations Center (NAOC) is a command and control system for the National Command Authority onboard a Boeing-747 aircraft.
- The E-4B NAOC provides three separate improvements to the existing four aircraft E-4B fleet:
  - Global Air Traffic Management Phase II supports flight access to international airspace
  - The Audio Infrastructure Update provides a digital communications switch and operator workstation, while updating onboard mission communications interface systems
  - The Senior Leadership Communications System provides a video teleconferencing capability and additional secure communications capability

### Mission

- The National Command Authority uses the E-4B NAOC as an Alternate National Military Command Center. National



Command Authority support forces provide flight and communications capabilities to support national contingency response, national leadership continuity, and strategic defense.

- The E-4B NAOC can operate while on the ground or in-flight worldwide. The in-flight air refueling capability augments the in-flight missions.

### Activity

- The Air Force completed contractor developmental testing with government assistance in order to evaluate component functionality. Testing occurred both in the laboratory and on the parked test E-4B, with additional integration testing conducted while the modified E-4B flew.
  - Combined developmental and operational tests, including evaluation of information assurance vulnerabilities, completed during FY06 in accordance with the DOT&E-approved Test and Evaluation Master Plan.
  - Operational testing completed in July 2006 in accordance with the DOT&E-approved Test and Evaluation Master Plan and operational test plan.
- and retest results. The test results ultimately supported the decision to enter into dedicated operational test.
- Emerging results from operational tests indicate objectives were completed. However, the user deferred test of one requirement due to a previously identified critical deficiency concerning communications performance.
  - DOT&E is still conducting data analysis, but the emerging results indicate:
    - The operational availability threshold was not demonstrated for the Senior Leadership Communications System and there are concerns about logistics supportability when deployed overseas. Specifically, there are no spares, little training, and no technical orders with which to repair it. Additionally, testing data indicates that overall Modification Block I Mean Repair Time does not meet the threshold requirement.
    - While the Modification Block I system provides the crew increased situational awareness of the communications circuits, test data reveals there are "connection time" and "communication success rate" issues, which will affect DOT&E's overall evaluation of operational effectiveness.

### Assessment

- The results of combined developmental and operational testing, along with the dedicated operational test, should support Modification Block I kit production and fielding decisions for the E-4B fleet and placement of the modified aircraft on operational alert status.
- Combined developmental and operational testing results provided the developer with information on deficiencies

# AIR FORCE PROGRAMS

## Recommendations

- Status of Previous Recommendations. No FY05 report was submitted for the E-4B NAOC program.
- FY06 Recommendation.
  1. The Air Force should plan to conduct follow-on test and evaluation of the mitigation of the communications

performance deficiency and any other deficiencies indicated by the final operational test report.