

Executive Summary

AV-8B Open Systems Core Avionics Requirements (OSCAR) Program

PNUM 41

Background: This project defines the tasks to be performed by The Boeing Company to conduct an Open Systems Demonstration Project in conjunction with the AV-8B OSCAR program. The purpose of the project is to apply commercial open systems technology and acquisition practices to an avionics development program in order to assess the benefits in terms of affordability and development time. The AV-8B OSCAR program, along with the USAF F-15 Advanced Display Core Processor (ADCP) Program, will serve as the focus of the project.

This project provides the added tasking associated with managing and tracking the OSCAR program as a demonstration of open systems-based acquisition, in accordance with current Office of the Secretary of Defense (OSD) policy and directives. It does not include the specific OSCAR engineering and manufacturing development (EMD) program managed by the AV-8B Class Desk.

OSCAR was designated by the Principal Deputy Under Secretary of Defense (Acquisition and Technology) as an open systems pilot project on 15 February 1996. Subsequently, on 6 October 1996 the Assistant Secretary of the Navy for Research, Development, and Acquisition authorized initiation of the OSCAR program.

Open Systems Steering Committee: Boeing is facilitating an Open Systems Steering Committee, comprised of representatives from the Open Systems Joint Task Force (OS-JTF), the AV-8B Class Desk and the F-15 System Program Office for the purpose of defining acquisition policy guidelines for implementation in the AV-8B OSCAR and F-15 ADCP programs. These guidelines are addressing:

- Streamlined program management (reviews, reporting mechanisms, etc.),
- Performance specification approaches for development and procurement (vs. MIL-Spec),
- Interface definition and control (methods, documentation),
- Supplier management/partnerships,
- Contracting approaches,
- Support concepts (address short commercial product life, configuration control, organizational-to-original equipment manufacturer, warranty, etc.), and
- Benchmarks for affordability, robustness of commercial items (CIs), and productivity against which the OSCAR upgrade program will be periodically assessed.

The Open Systems Steering Committee convenes on an as-needed basis to monitor progress of the OSCAR program and reports formally to OS-JTF on an annual basis during the period of performance.

Approach: Boeing is leading an OSCAR Program Integrated Process Team (IPT) consisting of Boeing, AV-8B Class Desk, Naval Air Warfare Center-Weapons Division (NAWC-WD) at China Lake, and key suppliers. The Program IPT will apply open systems acquisition guidelines. The program IPT will address:

- Definition of a streamlined program management process,
- Preparation of performance specifications,
- Preparation of Interface Control Documents based on required performance and environmental attributes,
- Definition of supplier partnerships (contracting alternatives), and
- Establish the OSCAR support concept.

Boeing is monitoring, tracking, and documenting key programmatic parameters which include quantitative pay back implications of Open Systems acquisition, productivity by program phase, and robustness of commercial item hardware and software components through each stage of development and test.

The pay back analysis will compare actual program costs through DT plus projected costs through completion of the program against estimated costs for a conventional (MIL-Spec based) acquisition approach. Operations and Support pay back will be based on estimated cost projections. Methods by which comparison costs are derived will be fully explained and documented in the final report.