

Mission Planning System (MPS) (including Joint Mission Planning Systems (JMPS))

Executive Summary

- The Joint Mission Planning System (JMPS) demonstrated improved results during developmental and operational testing.
- The Air Force is leading Service efforts to develop the new common core Joint Mission Planning System Framework version 1.4. This new framework, once matured, is intended to be adopted by all Services as a common core to build Service and host platform-specific Mission Planning Environments (MPE).

System

- JMPS is currently a Windows XP, PC-based common solution for aircraft mission planning. It is a system of common and host platform-unique mission planning applications for Air Force host platforms.
- A Mission Planning Environment (MPE) is a total set of developed applications built from modules. The basis of an MPE is the Framework, to which a Unique Planning Component (UPC) is added for the specific aircraft type (e.g., F-15E). Other Common Components (CCs) that can support multiple users are added as well (e.g., GPS-guided weapons, electronic warfare planner, etc.) to complete the MPE.
- JMPS operates as an unclassified or classified system in either a stand-alone, workgroup, or domain environment.
- Although the JMPS software is being co-developed among DoD components, JMPS is not a joint program.



Mission

Aircrews use JMPS to plan all phases of their missions and then save required aircraft, navigation, threat, and weapons data on a data transfer device so they can load it into their aircraft before flight.

Prime Contractor

- Framework: BAE Systems

Activity

- DOT&E published a Beyond Low-Rate Initial Production (BLRIP) Report to Congress for the operational test of the Air Force Mission Planning System (MPS) Program, Increment II (F-15) (Version 1.2) during FY08.
- The 46th Test Squadron conducted a user test of the B-1B bomber MPE during FY08 at Eglin AFB, Florida.
- Air Combat Command's 28th Test and Evaluation Squadron conducted an operational test of the F-15 version 1.3.4 MPE during FY08.
- The Air Force Operational Test and Evaluation Center (AFOTEC) conducted an operational test of the B-1B SB12 MPE during FY08.
- The 46th Test Squadron conducted a user test of the F-16 4.2+ MPE during FY08 at Eglin AFB, Florida.
- The 46th Test Squadron conducted a user test of the RC-135 Spiral 2 MPE during FY08 at Offutt AFB, Nebraska.

- The Air Force conducted operational testing in accordance with the DOT&E-approved TEMP and applicable test plans.

Assessment

- In the BLRIP report to support the fielding decision for the Air Force F-15 Version 1.2 MPE, DOT&E evaluated that testing was adequate to demonstrate that the F-15 version 1.2 was operationally effective, but not operationally suitable. The system was operationally effective based on the findings that the aircrew could use the MPS to plan missions, although there were human factors and data fidelity deficiencies with some of the F-15 Mission Planning software modules. The evaluation of not operationally suitable was based in large part on system instability with a number of failures in reliability, maintenance, and logistics supportability. A comprehensive evaluation of information assurance vulnerabilities indicated

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additional effort is needed to support direct interface with classified communications networks.

- The 28th Test and Evaluation Squadron evaluated the F-15 MPE version 1.3.4 as operationally effective and suitable. The test verified the effectiveness of new planning capabilities, including satellite communications and improved air-to-surface ordnance delivery planning. The test squadron demonstrated accurate transfer of mission planning data to F-15 aircraft. While the number of system failures encountered during the tests was high, overall operational suitability was improved as compared to F-15 version 1.2 test results. DOT&E concurs with the evaluation.
- The Air Force Operational Test and Evaluation Center (AFOTEC) evaluated the B-1B SB-12 MPE as operationally effective and suitable. The single JMPS replaces three separate legacy mission planning systems used by B-1 aircrew and provides new mission planning capabilities. AFOTEC demonstrated accurate transfer of mission planning data to B-1B aircraft. Base power outages due to severe weather during the test resulted in some lost planning data and computing system reboot anomalies. This highlighted three system deficiencies, including the need for uninterrupted power supply systems for JMPS, lengthy initial system

setup time, and numerous computer failures during mission planning. DOT&E concurs with the AFOTEC evaluation.

Recommendations

- Status of Previous Recommendations. The Air Force satisfactorily addressed all of the FY07 recommendations.
- FY08 Recommendations.
 1. While somewhat improved over predecessor versions, computing system stability under relatively light loading still hinders JMPS reliability. The Air Force should review the adequacy of computing processing and memory requirements for JMPS. The Air Force should also design a test to define and document the maximum stress loading of the JMPS in terms of simultaneous mission planning conducted in a network.
 2. The Air Force should review the results of the B-1B MPE test and acquire adequate uninterrupted power supplies to minimize materiel damage, software corruption, and adverse impact to aircrew mission planning.
 3. The Air Force should continue to place emphasis on information assurance improvements to ease the process to import air tasking orders and threat data into the mission planning computer.