Joint Biological Point Detection System (JBPDS)

Executive Summary
- The Joint Biological Point Detection System (JBPDS) is operationally effective to support decisions to initiate medical treatment for certain biological warfare agent attacks when used in accordance with the Army and Navy concept of operations. The operational capability is limited by the performance of the JBPDS detector and identifier.
- The JBPDS is suitable for shipboard employment. The Army JBPDS Shelter variant is not suitable due to poor reliability. The JBPDS is not operationally effective or suitable when employed in accordance with the Air Force concept of operations.
- The Milestone Decision Authority approved JBPDS Full-Rate Production, Type Classification, and Full Material Release in October 2009.

System
- JBPDS provides detect-to-treat biological agent point detection, identification, and sampling capability.
- The JBPDS consists of a biological suite that has a Biological Aerosol Warning Sensor (or trigger), collector, fluid transfer system, and identifier. The identifier inoculates assays that contain antibodies of specific biological warfare agents.
- JBPDS provides the capability to collect and preserve samples for confirmatory analyses to support follow-on courses of action for the commander including treatment, quarantine, countermeasures, and litigation.
- The Services require the trigger to detect presence of a biological aerosol and to identify the biological warfare agent in less than 15 minutes.

Shelter Shipboard

- The Navy will employ the JBPDS aboard ship.
- The Army employs JBPDS mounted in a High Mobility Multi-purpose Wheeled Vehicle or integrated into the Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicle.
- The Air Force planned to employ the JBPDS at fixed site locations.

Mission
Units equipped with the JBPDS provide early warning and identification of up to 10 aerosolized biological warfare agents.

Prime Contractor
- General Dynamics Armament and Technical Products Division, Charlotte, North Carolina

Activity
- The Army Test and Evaluation Command assumed responsibility as the lead Operational Test Agency from the Air Force in January 2009 and completed an operational assessment in February 2009.
- The Joint Program Executive Office for Chemical and Biological Defense conducted an open competition for the JBPDS full-rate production contract and plans to award a contract in FY10. If the full-rate production configuration is different from that of the system that underwent previous IOT&E, additional OT&E is required to confirm operational effectiveness and suitability.
- DOT&E completed its operational evaluation and published its Beyond Low-Rate Initial Production (BLRIP) Report on JBPDS in June 2009.
- The Air Force withdrew from the JBPDS program in August 2009 based upon a review of the Service concept of operations for biological defense, existing point detection capabilities, and JBPDS performance. This resulted in the elimination of the requirement for the man-portable and trailer JBPDS variants.
- The Milestone Decision Authority approved JBPDS Full-Rate Production, Type Classification, and Full Material Release in October 2009.
- The program manager plans to complete the required Whole System Live Agent Testing in 2010 to demonstrate JBPDS performance against the remaining biological warfare agents.

Assessment
- JBPDS is operationally effective to support decisions to initiate medical treatment for certain biological warfare agent attacks when used in accordance with the Army and Navy

concept of operations. The operational capability is limited by the sensitivity of the JBPDS detector and identifier.
- The JBPDS is not operationally effective or suitable when employed in accordance with the Air Force concept of operations.
- The JBPDS is suitable for shipboard employment. The Army JBPDS Shelter variant is not suitable due to poor reliability.

Recommendations
- Status of Previous Recommendations. The program addressed the previous recommendations.
- FY09 Recommendations.
  1. The program manager should increase the detection and identification sensitivity of the JBPDS.
  2. The Army and Navy combat developers should revise the concept of operations and tactics, techniques, and procedures to account for the capabilities and limitations of the JBPDS.
  3. The program manager should improve JBPDS reliability.
  4. The Service Combat Developers should plan for routine end-to-end operator and command mission-level training.
  5. The material developer should work with the Navy to collect reliability data on the first installed shipboard system to assess the impact on reliability of changes to the JBPDS configuration since the shipboard operational test.