Joint Biological Standoff Detection System (JBSDS)

Executive Summary
- Joint Biological Standoff Detection System (JBSDS) is a light detection and ranging (LIDAR)-based system that detects aerosol clouds out to 5 kilometers and discriminates clouds with biological content at distances of 1-3 kilometers.
- Completion of the agent/simulant correlation study provided data that has been used to refine the system's processing algorithm.
- The testing of the JBSDS Increment 1 is now underway, and an evaluation of the outcome will be made on completion of the testing in December 2006.

System
- JBSDS is a LIDAR-based system that detects aerosol clouds out to 5 kilometers in a 120-degree arc, and discriminates clouds with biological content from clouds without biological material at distances of 1-3 kilometers. The system operates at night only and would be damaged if operated during daylight hours.
- The Air Force will employ JBSDS in semi-fixed locations and the Army will employ the system on a stationary high-mobility multi-purpose wheeled vehicle, but operate in a stationary mode.
- Increment 1 is a limited production of 25 units to provide an interim stand-off biological detection warning.

Mission
- Commanders use JBSDS to support their contamination avoidance decision-making process.
- The system provides a commander with advance warning of the presence of potential biological weapon aerosol cloud hazards so the commander can implement individual and collective protective measures to protect assigned forces.

Activity
- Sandia National Laboratory has completed an agent/simulant correlation study. The results of this study have been used to define the alarm function of the JBSDS's processing algorithm based on threat agent characteristics.
- Multi-Service Operational Testing (MOT) began July 16, 2006, and completed on October 26, 2006.
- The Air Force portion of the MOT was paused in July after three days because of a high false alarm rate. After changes were made to the system, the Army portion of the MOT was executed. The Air Force portion of the test restarted in October 2006.
- The MOT will be followed by limited performance testing in a littoral environment and false alarm testing at Eglin AFB and Philadelphia, Pennsylvania, at the Philadelphia Naval Business Center (formerly the Philadelphia Naval Yard) during November and December 2006.
- An improved Increment 2 version is currently under study and several technologies have received preliminary performance testing at Dugway Proving Ground, Utah.

Assessment
- Evaluation of operational effectiveness, operational suitability, survivability, and test adequacy are now underway.
- There is no guarantee that the threat will come at night. If the biological warfare agent were released during daylight, the ultraviolet rays would lessen the potency of the agent, yet it would still remain a threat.

Recommendations
- Status of Previous Recommendations. There were no FY05 recommendations for this program.
- FY06 Recommendations. None