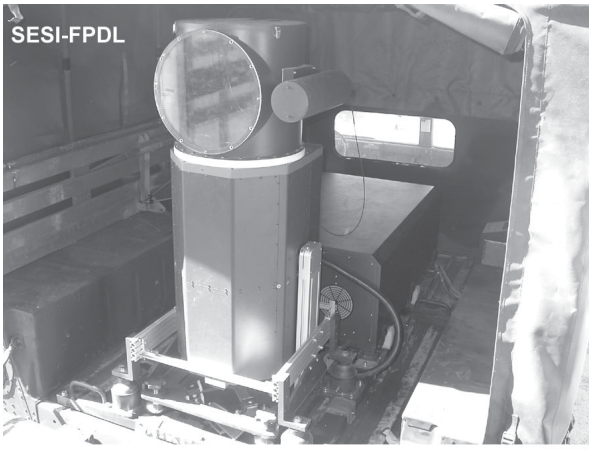
Joint Biological Standoff Detection System (JBSDS) Block I

The Joint Biological Standoff Detection System (JBSDS) Block I is an interim joint biological standoff detection program intended to provide early warning of a biological agent attack. The Army and Air Force will deploy the system at fixed sites or mount the system on vehicle platforms such as the high-mobility multipurpose wheeled vehicle. Block I is to be capable of detecting biological aerosol clouds at distances up to five kilometers; be capable of ranging and tracking aerosol clouds; and be able to discriminate clouds of biological origin from all other clouds. The system is not intended to identify the specific biological content of a cloud; this must be done by an air sampling point detection system.

The Block I development and production phase consists of the development, integration, testing, manufacture, and fielding of the JBSDS for two Services, the Army and the Air Force. The program has developed two different prototypes and will select one design during system design and development. The Army and Air Force are to be able to employ the Block I system at a limited number of sites. An operator will relay the system's output to a command location. A Block II system is intended to be employed by all Services, to be fully interoperable, and to have increased detector sensitivity and range. Block II's communications, cloud tracking, and analysis will be fully automated. Additionally, Block II will have improved mobility capabilities, and will be mounted on reconnaissance vehicles.

In December 2000, the Project Manager awarded a contract to build a rugged infrared, ultra-violet, portable digital-fluorescence and aerosol laser imaging detection and ranging sensor for standoff detection and identification of biological-agent aerosols. The JBSDS program then added another contractor to the concept development effort. By March of 2003, both firms had matured the technology and system to Technology Readiness Level 6 and had built engineering prototypes ready for a competitive evaluation. The acquisition objective is 24 systems. Milestone B occurred on September 9, 2003.



The shoot-off provided technical data that will be used in the selection of one contractor for low-rate initial production of six systems.

TEST AND EVALUATION ACTIVITY

In June 2003, JBSDS Block I Production Qualification Test was conducted in the form of a competitive shoot-off. The shoot-off provided technical data that will be used in the selection of one contractor for low-rate initial production of six systems. The full-rate production will include the refurbishment of the six low-rate initial production systems and an additional 18 systems.

The Production Qualification Tests included multiple releases of both simulants and killed biological agents at Dugway Proving Ground, Utah. The releases were made in the standoff Ambient Breeze Tunnel and on the open test grid. Following the Dugway activity, there was a series of false alarm tests conducted at the Philadelphia Navy Yard.

TEST AND EVALUATION ASSESSMENT

The IOT&E budget for Block I is fully funded. The JBSDS program needs an additional $4.8M in production funds to execute the FY04 program. This funding requirement was addressed by an unfunded requirement submission. If that fails, the requirement will be supplemented by a diversion of JBSDS Block II RDT&E money. This diversion would assure Block I development, but delay Block II development.

Test planning appears adequate; however some questions remain regarding the correlation of simulants to live agents. This correlation is under study at Sandia National Laboratory. One of the concerns with the JBSDS program is whether live biological agents can be adequately represented by gamma-radiated biological agents or by other non-lethal simulants.