

# Joint Biological Standoff Detection System (JBSDS) (Increment 1)

### SUMMARY

- In June 2003, the Office of the Joint Project Manager, NBC Contamination Avoidance, (JPM NBC CA) conducted a Joint Biological Standoff Detection System (JBSDS) Increment 1 Production Qualification Test as a competition between contractors. Neither candidate system demonstrated the Milestone C entrance criteria of probability of detection, probability of discrimination, mean time between false alarms, weight, reliability, and availability.
- On April 28, 2004, DOT&E approved a Test and Evaluation Master Plan (TEMP), which provides for two additional operational assessments; one based on the engineering development test planned for 2Q/3QFY05 to address the entrance criteria not previously met, the other to be conducted after the production verification test planned for 2QFY05 to support the decision to begin Multi-Service Operational Test and Evaluation during 4QFY05.
- We are concerned whether gamma-irradiated biological warfare agents or other non-lethal simulants can adequately represent live biological warfare agents in realistic operational tests.



*Questions remain regarding the relationship of the system's performance in detecting simulants with its performance in detecting live agents in a field environment.*

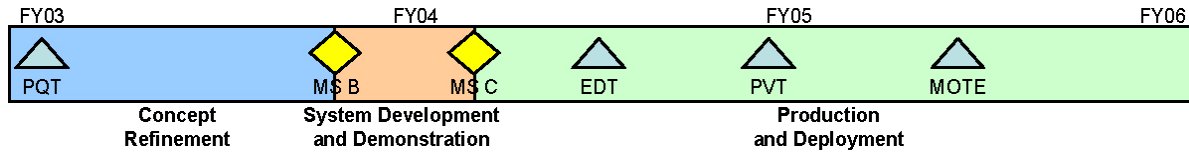
### SYSTEM DESCRIPTION AND MISSION

The JBSDS Increment 1 is to provide an interim capability for early warning of a biological warfare agent attack. The JPM NBC CA plans to produce 24 systems. The Air Force and Army intend to deploy the system at fixed sites or mount the system on vehicle platforms such as the high-mobility multi-purpose wheeled vehicle (HMMWV). The users require the system to detect biological aerosol clouds at distances up to five kilometers; to range and track aerosol clouds; and to discriminate clouds of biological origin from other clouds and normal background levels of biological aerosols at ranges of up to one kilometer. 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.

All Services intend to employ Increment 2 systems, which are required to be fully interoperable with command and control systems, and to have increased detector sensitivity and range. Increment 2's communications, cloud tracking, and analysis will be fully automated. Additionally, it will operate from mobile reconnaissance platforms. It will also provide a shipboard and fixed-site standoff biological detection capability.

# DOD PROGRAMS

## TEST AND EVALUATION ACTIVITY



In June 2003, the office of the JPM NBC CA conducted the JBSDS Increment 1 Production Qualification Test as a competition between contractors. The test provided technical data, which the JPM NBC CA used to select one contractor for low-rate initial production of six systems. Neither candidate system demonstrated the Milestone C entrance criteria of probability of detection, probability of discrimination, mean time between false alarms, weight, reliability, or availability. On April 28, 2004, DOT&E approved a TEMP, which provides for two additional operational assessments; one based on the engineering development test planned for 1QFY05 to address the entrance criteria not previously met, the other after production verification test planned for 2QFY05 to support the decision to begin Multi-Service Operational Test and Evaluation during 4QFY05.

## TEST AND EVALUATION ASSESSMENT

Test planning appears adequate; however, some questions remain regarding the relationship of the system's performance in detecting simulants with its performance in detecting live agents in a field environment. The JPM NBC CA has coordinated with Sandia National Laboratory and Dugway Proving Ground to study the effects of gamma irradiation and heat as a means of inactivating both simulants and agents. We are concerned whether gamma-irradiated biological warfare agents or other non-lethal simulants can adequately represent live biological agents in realistic operational tests and evaluation.