

Stryker - Nuclear, Biological, and Chemical (NBC) Reconnaissance Vehicle

Executive Summary

- The contractor performed engineering and design changes to address performance and suitability issues identified in government testing in FY03 and FY04.
- Production verification testing starts in early FY06. The IOT&E is scheduled for FY06 and the full-rate decision for FY07. Completion of both the Stryker – Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV) initial OT&E and LFT&E programs is designed to support the full-rate production decision review in 2007.

System

- The NBCRV is one of 10 specialized systems of the Stryker family of vehicles in the Stryker Brigade Combat Team. The NBCRV uses a modified Infantry Carrier Vehicle chassis.
- NBC sensors and communications are integrated with the Stryker to perform NBC detection, identification, sampling, and reporting of NBC hazards.
- The NBCRV provides protection to the crew against small arms, mines, and artillery fragments.
- The NBC mission equipment package includes:
 - Joint Biological Point Detection System
 - Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD) system
 - Block II of the Chemical and Biological Mass Spectrometer and Dual Wheeled Sampling System
 - Chemical Vapor Sampling System
 - North Atlantic Treaty Organization (NATO) standard markers



Mission

- Stryker Brigade NBC reconnaissance platoons use NBCRV to perform tactical reconnaissance and security operations in support of Stryker Brigade Combat Teams. It is part of the early entry combat force, capable of independent operations, or as a subordinate maneuver element within the Division or Corps.
- NBCRV teams report information to the Reconnaissance Squadrons of the Stryker Brigade Combat Team.

Activity

- Government production verification testing is planned to begin in 1QFY06. The IOT&E is scheduled for 3QFY06, and the full-rate production decision review in FY07.
- The Army plans to execute the NBCRV LFT&E program between 2QFY06 and 2QFY07. Testing will include:
 - Armor characterization
 - Controlled damage experimentation
 - Automatic fire extinguishing system
 - System and full-up system-level
 - Battle damage assessment and repair exercises
- Modeling and simulation activities are being conducted by the Army to characterize the detection performance of the JSLSCAD Increment 1 in the presence of battlefield backgrounds and interferents.

- The Army is revising the NBCRV Test and Evaluation Master Plan, intending to submit it to OSD for approval in 1QFY06.

Assessment

- The performance of the NBC sensors integrated with the Stryker NBCRV is key to mission success. This will form the basis of IOT&E in 2006.
- The Joint Requirements Oversight Council/Army reduced the operational requirements for the JSLSCAD-equipped Stryker NBCRV based on poor JSLSCAD Increment 1 performance versus simulants in early testing and evaluation. JSLSCAD detection performance is significantly degraded by the presence of naturally occurring environmental interferents.

ARMY PROGRAMS

Even if it meets revised operational requirements for detection and range performance, its critical detection information will not provide the battlefield commander with a beneficial standoff detection capability. This conclusion is derived from the fact that the system completes a search pattern in 90 seconds, and can cover almost 1,500 meters in 90 seconds. If the detector can detect out to 500 meters, the platform will have entered the cloud before it will alarm.

- The mission equipment package is provided to this system as government furnished equipment by the Joint Program Executive Office for Chemical and Biological Defense. It is

not sufficient for the NBCRV program to demonstrate mere integration without degradation of the sensors; operational testing must confirm that the NBCRV can support the brigade commander with timely warning and accurate battlefield NBC information.

Recommendation

1. Conduct operational testing to confirm that the NBCRV can support the brigade commander.