

# Joint Warning and Reporting Network (JWARN)

## Executive Summary

- Joint Warning and Reporting Network (JWARN) automates battlefield reporting of Nuclear, Biological, and Chemical (NBC) hazards to protect U.S. forces and conduct NBC Defense operations.
- Early developmental and operational testing finished in late FY05 in order to influence design in preparing for future operational testing with Joint Exercises.

## System

- JWARN mission application software implements North Atlantic Treaty Organization (NATO) reporting and hazard prediction for NBC hazards.
- It is hosted on Services' Global Command and Control Systems and other tactical command, control, communications, computers, and intelligence networks.
- The JWARN component interface device is the hardware that links the NBC sensor to the JWARN network.

## Mission

Commanders use JWARN to disseminate warning and NBC hazard prediction in order to protect the force. JWARN:

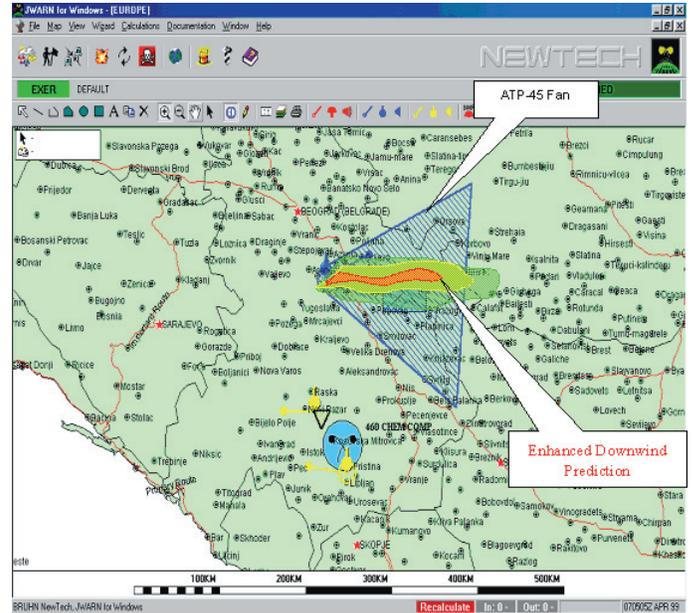
- Warns units of NBC hazards
- Formats and sends reports
- Interacts with Joint Effects Model and Joint Operational Effects Federation to correlate multiple NBC detection

## Activity

- Developmental testing in June 2005 demonstrated the integration of JWARN Mission Application Software (JMAS) with Joint and Maritime Global Command and Control Systems.
- Testing was conducted in laboratory using Phase 1 version of the software to determine the adequacy of technical interfaces and operation of software code.
- The Test and Evaluation Master Plan (TEMP) is under review to address the March 2004 acquisition strategy.
- Air Force Operational Test and Evaluation Center conducted an early operational assessment in August 2005. Military personnel operated the system in a laboratory setting to test the operation of the software.

## Assessment

- Some Service concept of operations for JWARN are not mature and do not adequately address the various modes of operation, including manual inputs and automated inputs from sensors.



- reports from manual sources and from automated sensor networks
- Provides hazard prediction and targeting analysis
- Provides information to manage NBC assets and support planning for NBC operations

- JWARN Multi-Service Operational Test and Evaluation (MOT&E) is planned to be embedded in a Joint Exercise of operational forces. Although this has the advantage of using a realistic command and control network, there is a significant risk that the test objectives will not be fully addressed, or the test itself might be cancelled or modified due to higher priorities of the exercise sponsor.
- An adequate test of JWARN with automated linkages to the full set of intended chemical and biological detection and other software modules in development, will not be possible for the JWARN MOT&E.
- Based on observations in other test events, DOT&E is concerned that during the MOT&E the operational loading of the host systems and the reports generated by sensors may not be realistic.

# DOD PROGRAMS

## Recommendations

1. Prepare a backup plan and resources to conduct independent operational testing if the planned Joint Exercise fails to sponsor the operational test.
2. As Phase 1 testing was conducted in a laboratory, further test planning efforts are needed so test objectives are fully embedded into operational exercises.