

# Joint Warning and Reporting Network (JWARN)

## Executive Summary

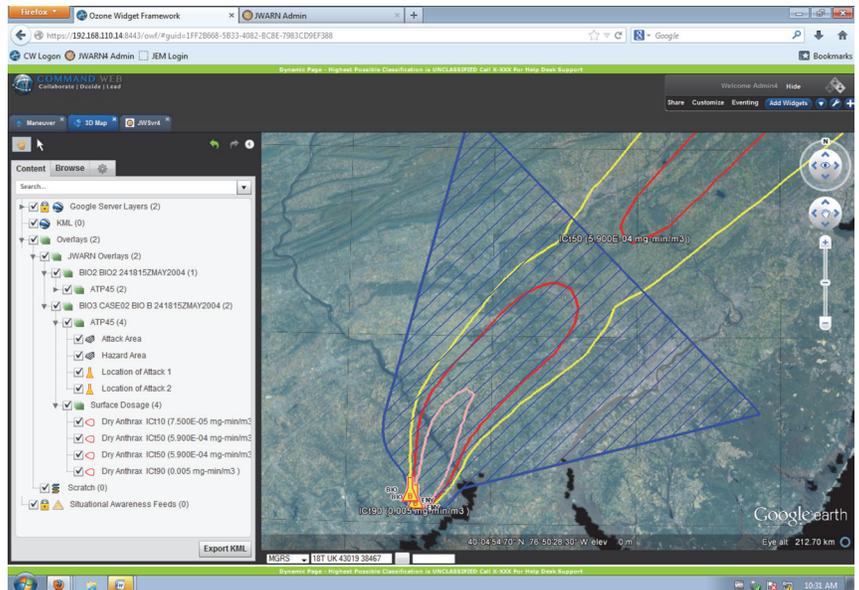
- The Army Test and Evaluation Command (ATEC) conducted operational testing of the Joint Warning and Reporting Network (JWARN) Web Application during the Network Integration Evaluation (NIE) 14.1 from October 3 to November 17, 2013, at Fort Bliss, Texas, and during the Ulchi Freedom Guardian 14 exercise from August 17 – 29, 2014, in the Republic of Korea.
- The JWARN Web Application provides an operationally effective tool to provide nuclear, biological, and chemical situational awareness and support operational decision making to protect units operating 10 or more kilometers from the initial chemical, biological, radiological, and/or nuclear (CBRN) release.
- The JWARN Web Application is not operationally suitable due to the lack of adequate training tools for operators to maintain the high level of operator proficiency required and the complexity of JWARN Web Application installation and configuration procedures.

## System

- The JWARN is a joint automated CBRN warning, reporting, and analysis software tool that resides on joint and Service command and control systems including the Global Command and Control System (GCCS) – Army, GCCS – Joint, GCCS – Maritime, and Command and Control Personal Computer/Joint Tactical Common Workstation.
- The JWARN Web Application is a web-based application that resides on the Battle Command and Control System server that is accessed by JWARN operators using a client computer operating within the Army Capability Set 13/14 network environment. It has been modified to operate in the Army Capability Set 11/12 network environment. The JWARN Web Application can also be installed and operate on a stand-alone computer.
- JWARN software automates the NATO CBRN warning and reporting process to increase the speed and accuracy

## Activity

- ATEC conducted operational testing of the JWARN Web Application within the Army Capability Set 13/14 network environment during NIE 14.1 from October 3 to November 17, 2013, at Fort Bliss, Texas. Testing was conducted in accordance with a DOT&E-approved test plan.



JWARN Web Application screen shot depicting CBRN hazard prediction overlay on common operational map

of information sharing to support force protection decision making and situational awareness.

- JWARN uses the common operating picture of the host command and control system or computing environment to display the location of CBRN events and the predicted or actual location of hazards to support the commander’s situational awareness and operational decision making.

## Mission

JWARN operators support the commander’s force protection and operational decisions by providing analysis of potential or actual CBRN hazard areas based on operational scenarios or sensor and observer reports; identifying affected units and operating areas; and transmitting warning reports.

## Major Contractor

Northrop Grumman Mission Systems – Orlando, Florida

- The Army Research Laboratory Survivability Lethality Analysis Directorate conducted a cybersecurity vulnerability assessment of the JWARN Web Application from June 24 – 27, 2014, at the Tactical Systems Integration Facility at Aberdeen Proving Ground, Maryland.

# FY14 DOD PROGRAMS

- ATEC conducted operational testing of the JWARN Web Application within the Army Capability Set 11/12 network environment and a stand-alone version of JWARN during the Ulchi Freedom Guardian 14 exercise from August 17 – 29, 2014 in the Republic of Korea. ATEC conducted the test during an operational exercise, which limited the ability to execute the test in accordance with the DOT&E-approved test plan. This did not preclude collecting the data necessary to resolve the key issues that the test was designed to address.

## Assessment

- The JWARN Web Application is operationally effective to provide CBRN warning reports in time for units operating 10 or more kilometers from the initial CBRN release to institute force protection actions before encountering CBRN hazards. It provides enhanced nuclear, biological, and chemical situational awareness and supports operational decision making in response to CBRN threats by automating the NATO Allied Technical Publication-45 process of warning, reporting, and hazard prediction. During operational testing at NIE 14.1, the JWARN did not provide an audible alert on the operator's computer when a warning report was received or a banner alert if the warning was received from another JWARN operator. The alerting capability was implemented and successfully demonstrated during the Ulchi Freedom Guardian 14 exercise in Korea.
- The JWARN Web Application is interoperable with both Army Capability Set 11/12 and 13/14 network-operating environments.
- The JWARN Web Application is not operationally suitable due to the lack of adequate training tools for operators to

maintain the high level of operator proficiency required and the complexity of JWARN Web Application installation and configuration procedures. Prior to testing during NIE 14.1, there was no formal system administrator training on installing JWARN on the network servers. This resulted in a seven-hour delay in establishing JWARN functions within the brigade test unit.

- The JWARN Web Application software is reliable and demonstrated an operational availability of 96 percent during operational testing at NIE 14.1.

## Recommendations

- Status of Previous Recommendations. The program manager has addressed the previous recommendation to field computer-based training for JWARN on Command and Control Personnel Computer, GCCS – Joint, GCCS – Army, and GCCS – Maritime. However, the program manager has not yet implemented computer-based proficiency training to support the deployment of the JWARN Web Application, which requires a different approach to keep pace with continuous software upgrades and the various web-based services with which JWARN interfaces. The computer-based training includes practical exercises and tests.
- FY14 Recommendations. The Program Office should:
  1. Consider utilizing the stand-alone version of the JWARN Web Application and CBRN operational scenarios of varying complexity for use as a training tool to maintain operator proficiency.
  2. Develop and field a JWARN Web Application installation wizard to minimize errors during installation of the JWARN Web Application.