

# Joint Effects Model (JEM)

## INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance



## MISSION

To provide enhanced operational and tactical level situational awareness of the battlespace and to provide real-time hazard information during, and after, an incident, to influence and minimize effects on current operations.

## DESCRIPTION

Joint Effects Model (JEM) is an Acquisition Category III software program. It is the only accredited DoD computer-based tactical and operational hazard prediction model capable of providing common representation of chemical, biological, radiological, nuclear (CBRN) and toxic industrial chemicals/toxic industrial material (TIC/TIM) hazard areas and effects. It may be used in two variants as either a standalone system or as a resident application on host command, control, communications, computers, and intelligence (C4I) systems. It is capable of modeling hazards in various scenarios, including: counterforce, passive defense, accidents, incidents, high-altitude releases, urban environments, building interiors, and human performance degradation.

JEM will follow an evolutionary acquisition approach. The JEM program will deliver a full-capability system in three increments, each retaining the functionality of the preceding increment(s). JEM Increment 1 will predict the probable hazard areas and effects for geographic locations following selected uses of CBRN and TIC/TIM by hostile forces; selected releases of CBRN materials resulting from offensive conventional strike missions performed by U.S. or allied forces on CBRN facilities; and selected accidental releases of TIC/TIM. Increment 2 and 3 will add additional capability and improve model performance. JEM will also support planning to mitigate the effects of weapons of mass destruction.

Chemical staff sections at the battalion, brigade, division, corps and echelons above corps levels, as well as Special Forces chemical recon detachments, will use JEM. Brigade, division, and corps-level CBRN staff planners will also have a reconnaissance version of JEM.

## SYSTEM INTERDEPENDENCIES

Resides on and interfaces with C4I systems, which will use JEM to predict hazard areas and provide warning to U.S. Forces within those areas.

## PROGRAM STATUS

- **2QFY09:** Increment 1 FRP decision

## PROJECTED ACTIVITIES

- **FY10–11:** Continue Increment 2 developmental testing
- **FY10–11:** Continue Increment 2 software development

## ACQUISITION PHASE

Technology Development

Engineering & Manufacturing Development

Production & Deployment

Operations & Support

Joint Effects Model (JEM)

FOREIGN MILITARY SALES

None

CONTRACTORS

Northrop Grumman Mission Systems  
(San Diego, CA)

