

## **MILITARY RANGE INFORMATION MANAGEMENT SYSTEM**

*EAD has developed methods and procedures for assessing and managing compliance and risk on military test and training ranges.*

### **■ PROBLEM/OPPORTUNITY**

Vast areas of active, inactive, transferred, transferring, and closed military ranges may contain unexploded ordnance (UXO) or be affected by munitions-related contaminants. The U.S. Environmental Protection Agency (EPA) Military Munitions Rule (MR), the proposed U.S. Department of Defense (DoD) Range Rule (RR), and other DoD requirements have been developed to address munitions-related threats to human health and the environment. DoD's challenge in addressing these threats is twofold. First, at active ranges, DoD must maintain required testing and operational capability in the face of an increasingly more stringent regulatory environment. Second, at closed, transferred, and transferring ranges, DoD needs to inventory, evaluate, and remediate any environmental or safety threats.

### **■ APPROACH**

To meet these challenges, EAD is developing the Range Information Management System (RIMS). This multiphased information management approach allows the use of increasingly sophisticated data collection and management techniques. Initial phases of RIMS involve assembling and reviewing existing range-related information and analyzing how it is generated and archived. Later phases involve modifying data generation, collection, storage, and retrieval techniques; creating a database; and linking the database to maps in a geographic information system (GIS).

RIMS is designed to:

- Satisfy existing DoD directives and regulations and EPA and state environmental requirements
- Respond to information needs associated with anticipated future regulatory requirements
- Assess and manage risks associated with test range activities on active, inactive, closed, transferred, and transferring ranges

For the system to achieve these objectives, Argonne reviews data from three broad information categories — past and present range operating data, generic site data, and environmental data — and assembles them into RIMS.

Examples of the types of data “hosted” by RIMS include these:

- Locations of firing positions, impact areas, and buffer zones
- Past, current, and future surrounding land use
- Pertinent environmental data (geology, hydrology, etc.)

Although no single data set is overwhelmingly important, the keystone of RIMS is its representation of the density (i.e., spatial distribution) of impact points for the munitions that have been tested on a range. This representation, which is called a munitions intensity plot (MIP) map, provides site managers with an objective

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appraisal of the distribution of munitions fired on active, closed, and transferring ranges.

RIMS effectively documents compliance with DoD directives, Defense Department Explosives Safety Board (DDESB) regulations, and environmental regulations. Site managers can also modify the data generation, collection, storage, and retrieval techniques identified in early phases of RIMS to facilitate the automated storage of data in a database and the linkage of this database to maps in a GIS in later phases of RIMS.

## ■ RESULTS

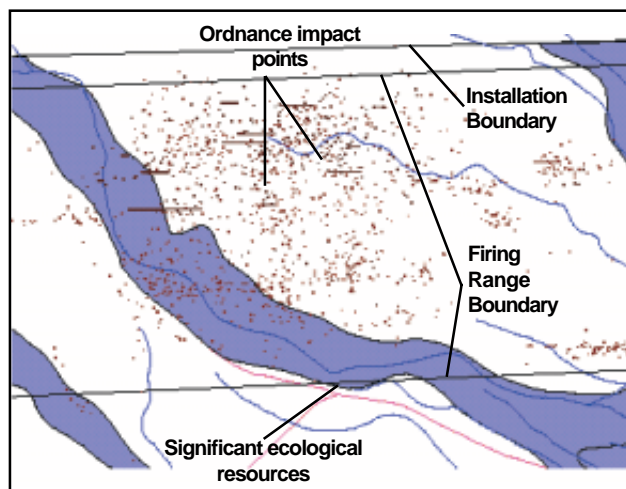
To date, Argonne has used RIMS to determine whether past weapons-testing activities and the resultant current levels of contamination have adversely affected the health of humans and ecological resources at a site. One way this has been done is by finding locations where ecological resources exist within impact areas and then identifying areas for “worst case” sampling.

## ■ FUTURE

DoD faces a daunting challenge with regard to managing risks on test and training ranges and ensuring that these ranges comply with existing and proposed regulations. EAD has developed RIMS to help DoD meet this challenge. EAD believes that this flexible, automated data management system will be an integral component of military range operations in the future. The EAD team involved in developing RIMS expects to continue helping DoD comply with its own existing requirements and future regulations such as the MR and RR.

## ■ COMMUNICATION OF RESULTS

An article titled “Managing Compliance and Risk on Military Testing and Training Ranges” was published in the spring 1998 issue of the *Federal Facilities Environmental Journal*. The work has also been documented in a report to the sponsor.



The Argonne RIMS will help ease the management of compliance and risk on firing ranges.

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