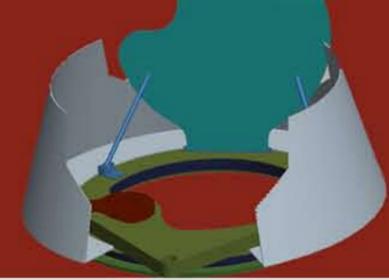


Improving Protection for First Responders



Building **knowledge, skills** and **technologies** to **protect** first responders.

Challenge

- Understand the limits of technologies
- Gain experience with and confidence in new technologies
- Communicate the operational environment to technology providers
- Implement consistent training, technology, and equipment standards
- Provide training that is realistic (and therefore expensive, time-consuming, and difficult to simulate)
- Provide vehicle armor (that is expensive and heavy)



Capabilities

- Independent technology evaluation
- Technology needs identification, integration of operational requirements into effective applications, and technology training
- Scenario development; realistic and full-scale exercises and demonstrations
- Modeling and simulation (e.g., blast effects/survivability)
- Chemicals and explosives detection (trace; bulk)
- Field-deployable radiological systems
- Permitted in-house range explosive testing
- Aerosol fog technology
- Facilities and resources (NNSA Center of Excellence for Vulnerability Assessment, HAMMER Facility, DOE sites)



National Laboratory Contributions

- Standoff detection technology (e.g., explosives, rad/nuc chem/bio)
- HazMat cam
- Light armor development
- Anthrax symposium and other workshops
- Training for first responders
- Development and integration of advanced firearms
- Systems development and training for integrated CBRNE assessment technologies for mobile response units
- Translating COTS technology into field-deployable applications
- System for first responders to track and control emergencies



Collaborations and Partnerships

- DOE National Laboratories
- DOD (110th Chemical Battalion – Fort Lewis; 101st Civil Support Team, Boise, ID)
- DHS (Coast Guard, Domestic Nuclear Detection Office)
- DOT
- State (e.g., WMD Civil Support Teams from many states)
- DOE Region 10 Radiological Assistance Program
- Regional and local law enforcement and first responders



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Science-Based Solutions for Homeland Security

