

DHS Science and Technology Directorate

2016 First Responder Electronic Jamming Exercise

The Electronic Jamming Threat

First responders across the country face increased electronic jamming threats, notably jamming of GPS, radio, and wireless systems. These threats interfere with responder communications equipment and can leave responders without vital communications and/or critical situational awareness. Although electronic jammers are illegal to own and operate in the United States, they are inexpensive and easy to obtain from foreign manufacturers. Proliferation of these illegal devices can delay emergency response times, escalate hazardous situations, result in loss of life, or facilitate illicit activities. Overall, electronic jammers pose a threat to local and national security, leaving our responders and our borders vulnerable.

In 2015, the Department of Homeland Security (DHS) issued a joint bulletin with the Federal Communications Commission (FCC) condemning the deliberate interference of “operational channels commonly used by first responders” and the disruption of “vital communications or affecting emergency operations.” Following incidents of radio obstruction against the Melville Fire Department on Long Island, New York, Rep. Steve Israel (D-NY) introduced the Emergency Responder Radio Communications Protection Act of 2015, which amends the federal criminal code to make it a crime to “knowingly interfere with a radio frequency used by emergency response providers in their official capacity” or “obstruct, hinder or delay a transmission over any such frequency.”

A Better Understanding of Jamming

The DHS Science and Technology Directorate (S&T) is proactively working towards identifying and combatting electronic jamming threats facing the first responder community. In July 2016, DHS S&T hosted the First Responder Electronic Jamming Exercise, a multi-agency operational exercise at the White Sands Missile Range in New Mexico. The exercise assessed the impact of these threats on first responder communications systems and mission response, and identified gaps in training, techniques, and procedures.

Federal, state, and local first responder organizations from across the United States conducted emergency response scenarios during which deliberate electronic jamming disabled some of their communications and navigation equipment.

The purpose of the exercise was to better understand how electronic jamming impedes responder systems. It also sought to examine the human element: how responders recognize jamming, how they react, how they adapt to find alternate methods to communicate, and how they achieve their mission in spite of communications challenges.



The data collected during the exercise is being analyzed and used to:

- Identify vulnerabilities in our nation’s responder communications networks and determine solutions;
- Design electronic jamming localization and mitigation technologies;
- Identify gaps in first responder training and provide recommendations to close them;
- Inform policy on resilient and redundant communications requirements; and
- Improve the ability of first responders to execute their missions in an electronic jamming environment.

The final analysis of the data will be presented in a consolidated report outlining results of the exercise, lessons learned, training recommendations, and mitigation strategies for first responders. This report will be vital in shaping the DHS strategic direction for countering electronic jamming threats and will inform future DHS S&T projects related to the mitigation of electronic jamming and interference.

Unity of Effort

The DHS S&T First Responder Electronic Jamming Exercise hosted first responders from more than 40 federal, state, and local agencies, including the Federal Emergency Management Agency, U.S. Customs and Border Protection, U.S. Immigration and Customs Enforcement, U.S. Coast Guard, the FCC, the Los Angeles County Sheriff’s Department, the Harris County Texas Fire Marshall, and Office of Homeland Security and Emergency Management. Academic institutions and industry representatives also attended to provide subject matter expertise.



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To learn more about the First Responder Electronic Jamming Exercise, contact SandTFRG@dhs.gov