



2017 Vigilant Guardian Full Scale Exercise

October 23-28, 2017

After Action Report
and Improvement Plan

Executive Summary

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Exercise Overview and Purpose

In partnership with the Department of Homeland Security (DHS) Domestic Nuclear Detection Office (DNDO), Department of Energy (DOE), Department of Defense (DOD) Defense Threat Reduction Agency (DTRA), Federal Bureau of Investigation (FBI), Federal Emergency Management Agency (FEMA) Region IX, US Coast Guard, California Governor's Office of Emergency Services (CalOES), California Army National Guard, local first responder agencies, and participating hospitals, the Preventative Radiological/Nuclear Detection (PRND) Workgroup planned and conducted Vigilant Guardian, a radiological/nuclear (R/N) detection, interdiction, and consequence management full-scale exercise (FSE) at different locations throughout the Bay Area from October 23- 28, 2017.

The purpose of the FSE was to bring together Bay Area first responders, as well as local, state, and federal agencies, to exercise the region's R/N detection, interdiction, and consequence management concept of operations (ConOps), standard operating procedures (SOPs), and personnel and equipment capabilities. The FSE incorporated the detection and interdiction of radiological threats on land and water and the response to a simulated detonation of a radiation dispersal device (RDD) in the City of San Francisco.

Threat Overview

R/N materials are being sought after by terrorists for use as a weapon of mass destruction (WMD) against targets in Europe and the United States¹. Following the terrorist attacks on September 11, 2001, emergency managers and first responders at the local, state and federal level became concerned about radiological and nuclear materials being taken out of regulatory control and used as a WMD.

Examples of how R/N materials could be “weaponized” into a WMD include:

- Radiation exposure device (RED): A strong source of radiation that when placed in an area where people are likely to sit, stand, or pass, will expose them to unhealthy levels of radiation.
- Radiation dispersal device (RDD): An improvised explosive device that when detonated spreads radioactive material over a small area, the more likely R/N WMD.
- Improvised nuclear device (IND): Unlike an RDD, the detonation of an IND results in a nuclear detonation that causes widespread damage and radioactive contamination over a wide area. Of the three RN WMDs, the detonation of an IND is the least likely due to the difficulty in obtaining the required special nuclear material.

The primary use of an RDD is to disperse radioactivity into the environment. With the threat of additional attacks and the public's hypersensitivity to R/N materials, the detonation of an RDD will inflict panic and terror in the population. Radioactive contamination that may persist for an extended period of time in affected areas will require the mandatory relocation of many persons and businesses. When relocation costs are combined with the enormous cleanup costs, this can negatively impact the region's economy for years after the attack.

¹ Remarks by President Obama and Prime Minister Rutte at Opening Session of the Nuclear Security Summit, April 1, 2016
3082018 Approval Authority Meeting Agenda Item 6b: Vigilant Guardian AAR & Improvement Plan

Exercise Scenario Overview

The “Brotherhood”, a fictitious Home Grown Violent Extremist (HGVE) organization, plans on detonating three RDDs simultaneously in the financial districts of San Francisco, Oakland, and San Jose. Each RDD will contain 10,000Ci of ¹³⁷Cesium, 5.5 (12lbs) of high explosive. To avoid notice, the RDD’s will be disguised as objects typically seen in public places. To maximize the number of casualties and contaminated persons the RDD’s will be placed in an area that people are most likely to congregate. The HGVE organization plans to detonate the RDD’s during the lunch hour on a Thursday when the number of persons in the primary target area is expected to be at their largest.

By committing such an act of terror, the HGVE organization hopes to coerce government and the civilian population into furthering their political and social objectives by causing a large number of casualties, creating panic because of the fear of radioactive contamination, and disrupting the Bay Area economy with the threat of additional attacks.

In the lead up to the attack, intelligence sources begin to intercept HGVE chatter that indicates there may be slightly elevated threat levels for RDD attacks across the country, and warn that state and local jurisdictions should consider enhancing R/N detection and interdiction capabilities at high-priority and high-risk sites that might be considered attractive targets.

Exercise Play Overview

In response, Bay Area government law enforcement, fire hazardous materials, and explosive ordinance teams agree to increase their R/N detection and interdiction efforts to an Enhanced Steady State mission state. To ensure unity of effort, the San Francisco FBI Office and the WMD Coordinator are providing oversight of Bay Area Enhanced Steady State activities planned to take place at various amusement parks, sports venues, and tourist attractions that could be considered as attractive targets to terrorists. The US Coast Guard-Sector San Francisco is coordinating all maritime R/N detection and interdiction activities.

Because of timely intelligence and information sharing among California’s fusion centers, Federal, state, and local law enforcement agencies are provided with information about the HGVE activities on a need-to-know basis, which allows them to recognize an attack using multiple RDDs is imminent, develop their situational awareness, enhance operational coordination, and effectively escalate their R/N detection and interdiction efforts. These efforts soon result in location of two of the three HGVEs clandestine laboratories, and securing of their RDD’s.

After losing contact with their confederates and fearing that they may soon be taken into custody, the third HGVE cell places the RDD at their secondary target: the South of Market area of San Francisco. Prior to the timed detonation of the RDD, violent extremists wearing suicide vests attack a nearby police and fire station with knives, hand-guns, and assault rifles. When the RDD detonates, the resulting explosion causes multiple casualties, fires, and collapse of a nearby building. ¹³⁷Cesium contamination initially creates Hot and Shelter-in-Place Zones within a 1500 feet radius from the point of detonation. Radioactive particles in the smoke are carried downwind, threatening to further expand the area of contamination.

Post-incident analysis indicates that this was a complex, coordinated terrorist attack (CCTA) against the financial centers of the Bay Area.

Improvement Plan (IP) Highlights

Based on the strengths and areas for improvement identified through the exercise, the following Improvement Plan (IP) items are highlighted:

Preventative Radiological Nuclear Detection (PRND)

1. Conduct regular primary and secondary screening training.
2. Provide annual PRND team operations training.
3. Provide annual PRND team leader training.
4. Provide annual maritime PRND operations training.
5. Provide tactical and hazmat PRND scenarios in the annual Urban Shield Emergency Preparedness and Security Exercise.
6. Provide an annual PRND tabletop exercise.
7. Provide an annual PRND full-scale exercise.
8. Practice steady state surge operations using the DND's Mobile Detection Unit (MDDU) equipment.

Radiological Nuclear Incident Response-Consequence Management (RNIR-CM)

1. Update and improve RNIR-CM guidance for first responders, emergency managers, public information officers, public health professionals and receiving hospitals.
2. Purchase additional Personal Protection Equipment (PPE) for use during R/N emergencies.
3. Purchase additional radiological detection and survey equipment for first responders and receiving hospitals.
4. Provide RNIR-CM training and exercises for first responders, emergency managers, public health professionals, and receiving hospitals.
5. Provide receiving hospitals with decontamination equipment.