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Volusia County, Florida Ocean Mass Casualty Exercise

SUMMARY

Volusia County, Florida hosted an ocean mass casualty exercise that simulated a man portable air defense systems (MANPADS) attack on a commercial airliner departing from Daytona Beach International Airport (DAB). The exercise allowed jurisdictional representatives and responders to test their emergency response processes and public safety plans within the context of an ocean mass casualty incident (MCI). The exercise's success was predicated on extensive pre-planning, as well as the assistance of federal, state, local, and private partners.

BACKGROUND

Volusia County is on the east coast of central Florida. It is home to roughly 470,000 people, as well as several tourist destinations, such as Daytona International Speedway, Daytona Beach, Ormond Beach, and New Smyrna Beach. Volusia County also includes DAB, which services over 40 flights, or 850 passengers, every day.

Volusia County Emergency Management (VCEM) conducts an annual exercise program to test the county's terrorism preparedness. As part of that program, VCEM began planning an ocean mass casualty exercise in February 2004. The intent was to test interoperability processes between the United States Coast Guard (USCG), Volusia County Beach Services (VCBS), and Daytona Beach Shores Public Safety (DBSPS)—three organizations that had not worked together during a MCI or MCI simulation.

Planning for the ocean mass casualty exercise coincided with a growing awareness of the MANPADS threat against commercial airliners in the United States. Accordingly, partners from DAB and the Transportation Security Administration were incorporated into VCEM's planning. VCEM also invited other area organizations to take part in the exercise, and the participant list grew to nearly 40 agencies.

Ocean Mass Casualty Exercise Scenario

An MD-88 commercial aircraft departs from DAB with 80 persons onboard. As the plane ascends to 500 feet, it is struck by a surface to air missile fired from a MANPADS device. The airplane is hit a second time following its attempt to return to DAB for an emergency landing. The aircraft clips a beachfront resort and its debris and passengers are strewn across the surf adjacent to the resort. Several victims die on impact, while many others are in various medical conditions on the beach, in the ocean, and in rubble produced by the collision.

GOALS

The goal of the Volusia County, Florida ocean mass casualty exercise was to examine the interoperability processes between private, local, regional, state, and federal agencies likely to provide response and support resources during such an incident.

DESCRIPTION

Volusia County's ocean mass casualty exercise provided federal, state, and local emergency response organizations with an opportunity to activate, implement, and execute their MCI response plans and procedures. The exercise cost roughly \$40,000 and included over 300 individuals from nearly 40 agencies. The ocean MCI had two primary components: A May 6, 2005 tabletop exercise (TTX) and a June 7, 2005 full-scale exercise (FSE).

Tabletop Exercise- May 6, 2005

The four-hour TTX was held at Bethune-Cookman College in Daytona Beach. The purpose was to familiarize participants with issues they might face during an actual ocean MCI event. TTX participants observed three training briefings prior to the TTX. During the TTX, they covered discussion topics relevant to the "takeoff," "response," and "recovery" phases of an ocean MCI scenario. Both the pre-TTX briefings and the TTX allowed participants to discuss and reassess their current MCI protocols.

Pre-TTX Briefings

Three training briefings were held immediately prior to the TTX. They were presented by representatives from Volusia County's Office of the Medical Examiner (VCOME), the Department of Defense's Defense Intelligence Agency (DIA), and the National Transportation Safety Board (NTSB). The briefings provided emergency responders with information relevant to an ocean MCI, as well as MANPADS-related issues:

- **Perishable incident site:** The VCOME speaker discussed crime scene preservation and evidence recovery at a perishable incident site, such as an ocean or beach.
- **MANPADS:** The DIA speaker detailed the threat of a MANPADS attack on civil aviation and discussed how to identify a MANPADS device and its associated parts. In addition, the DIA speaker provided VCEM with actual MANPADS components that could be used during later Volusia County training efforts.
- **Airplane crash site:** The NTSB speaker shared lessons learned from previous airplane crashes, including examples from the 1996 crash in the Florida Everglades. He also explained what the NTSB's role would be if an airplane crashed in Volusia County.

Situation Manual

VCEM created a situation manual to facilitate execution of the TTX. The manual provided TTX players with an introduction to the exercise that explained its learning objectives, structure, participants, locations, and other logistical information. The situation manual also included the following:

- **Discussion Topics:** The manual included a list of questions exercise planners used to structure the TTX. The questions focused on all stages of the emergency response, as well as larger, emergency management issues. The discussion topics were based on historical and analytical data gleaned from past Volusia County terrorism exercises and their subsequent lessons learned.
- **Medical Examiner/Coroner MCI Information:** The manual contained instructions for how to conduct disaster victim identification at an incident scene, as well as sample copies of victim identification forms. It also included a guide for mass fatality management of chemically contaminated remains.

- **MANPADS information:** The manual included an introduction to MANPADS, including how to correctly identify a MANPADS device and its basic components. The manual also contained a law enforcement officers' MANPADS hardware identification guide that provided detailed descriptions of the device and various methods for shipping one.

As part of the FSE simulation, a MANPADS battery motor was placed in a Daytona Beach cemetery located east of DAB. Law enforcement players recovered the motor and concluded that the cemetery was the FSE's simulated MANPADS launch site. The officers were able to identify the motor because they had reviewed a situation manual prior to the FSE.

The medical examiner information and MANPADS information were provided by VCOME and DIA, respectively, at the request of VCEM.

Full-Scale Exercise- June 7, 2005

The Full-Scale Exercise (FSE) took place at several locations throughout Volusia County, primarily within Daytona Beach Shores. The FSE allowed agencies to test MCI operational procedures in a realistic environment. It also enabled VCEM to examine the interagency/inter-jurisdictional relationships of area agencies and organizations during a MCI. The FSE included five major components:

- **Beach Rescue:** Emergency responders rescued, triaged, and treated MCI victims scattered across a quarter-mile portion of Daytona Beach. Responders dealt with challenges such as airplane parts obstructing response operations, walking wounded, anxious family members, and "souvenir hunters".
- **Ocean Rescue:** The USCG performed a waterborne rescue of "victim mannequins" placed in the ocean. In addition to testing the USCG's waterborne rescue capabilities, the ocean rescue also tested the Coast Guard's ability to communicate with other emergency responders and hospitals participating in the FSE.
- **Simulated Information Flow:** Thirty days prior to the FSE, fictitious intelligence regarding the FSE scenario was transmitted to exercise participants in order to test emergency response agencies' ability to identify and share information in the event of a MCI or terrorist event.
- **Technical Rescue:** Emergency responders, primarily firefighters, tested collapse rescue procedures by removing three MCI victims from a pile of debris. This part of the exercise was performed at a nearby elementary school simulating the resort damage area.
- **Victim Management:** All six hospitals in Volusia County simulated the reception and treatment of MCI victims.
- The FSE's implementation and completion were dependent upon extensive pre-planning measures conducted by VCEM in collaboration with several partner organizations. Substantial pre-planning initiatives included: resource acquisition; site preparation; volunteer staging; exercise documentation; and training.

Resource Acquisition

Exercise planners secured a number of resources in order to host and execute the FSE. Some of these resources included:

- **Airplane Fuselage:** An airplane fuselage, cockpit, and other miscellaneous parts were purchased for use in the exercise. The \$15,000 purchase allowed responders to conduct actual passenger extractions from airplane wreckage.
- **Mouflage:** A mouflage team applied three gallons of fake blood to over 100 exercise "victims." A mixture of Vaseline, toilet paper, and crushed charcoal was also used to

simulate second- and third-degree burns. Old clothes were charred with a blowtorch and provided to individuals portraying burn victims.

- **Refreshments:** Water and sports drinks provided by the American Red Cross, Coast to Coast Chapter, were available for all exercise participants to prevent dehydration during the FSE.
- **Smoke Canisters:** Smoke canisters were lit prior to the arrival of emergency responders at the beach rescue FSE location. These canisters were purchased by VCEM to mimic the heavy, dense smoke that would follow an airplane crash, adding realism to the FSE.
- **Exercise Victims:** Nearly 140 volunteers were recruited to participate as victims during the exercise. A majority were drawn from local colleges and public service groups, such as 4-H and the Boy Scouts of America.

Moulage

Moulage is often defined as “the art of using makeup to simulate an injury.” Moulage can add to an exercise’s realism and provide emergency responders with an idea of what they may encounter during an actual MCI.

Site Preparation

Extensive site preparation was needed to ready and secure the exercise’s beach rescue location, covering a quarter-mile section of Daytona Beach Shores. These efforts included:

- Beach/Park closure: VCBS closed to the public a quarter-mile section of Daytona Beach and an adjacent park area. Access routes to the closed portion of the beach were also secured by VCBS.
- Roadway closure: State Highway A1A, which is adjacent to the beach rescue site, was closed to all thru-traffic by the Daytona Beach Police Department and DBSPS.
- Fuselage placement: The airplane fuselage was escorted to the beach rescue location by the Florida Highway Patrol and placed there several hours before the FSE’s start time.

Volunteer Staging

Roughly 140 persons volunteered to act as FSE victims or other exercise injects, such as anxious friends and family members. These volunteers were staged at a local elementary school in order to receive and/or complete the following:

Registration: Volunteers completed the necessary paperwork prior to their FSE involvement.

Players’ Manual: Volunteers received a copy of the players’ manual, which detailed general information about the exercise, exercise participant roles and responsibilities, and other FSE safety, operational, and logistical issues.

Moulage: Volunteers acting as exercise victims were given make-up and clothing to better portray their FSE role(s).

Information Briefing: Volunteers were told where they should be located and how they should act during the FSE.

Following the staging process, volunteers were transported to the FSE location via school buses that had been secured prior to the exercise by VCEM. For more information on the staging of volunteers prior to Volusia County’s ocean MCI exercise, please see *Lessons Learned Information Sharing* Lessons Learned: “Volunteer Coordination: Preparing Volunteers for their Exercise Roles” and “Volunteer Coordination: Creating a Staging Area for Full-Scale Exercise Participants.”

Exercise Documentation

VCEM contacted a number of organizations, including Daytona Beach Community College, Emory-Riddle University, and Volusia County's Public Information Office to document the FSE. Participants documenting the exercise captured photographs, video, and written analysis in order to construct the exercise's after-action report. The documentation materials were also incorporated into a short VCEM training video. The video details an all-hazards approach to designing, hosting, and executing a large-scale training exercise, such as Volusia County's ocean mass casualty exercise.

Lessons Learned Implementation

Lessons learned from the ocean mass casualty exercise were captured during a hotwash conducted following the FSE. VCEM will coordinate the incorporation of those lessons into the procedures of several Volusia County emergency response organizations. It is VCEM's hope that the implementation of exercise lessons learned will improve interoperability between area organizations, as well as between county organizations and federal entities such as the USCG.

REQUIREMENTS

Keys to Success

The success of Volusia County's ocean mass casualty exercise can be attributed to several factors, including:

- **Learning Approach:** Volusia County's ocean MCI was promoted as a learning exercise, not as a simulation in which organizations would be set up to fail and be reprimanded for mistakes. That distinction encouraged more agencies to participate in the exercise and enabled them to focus on improvement rather than on performance alone.
- **Partnerships:** Volusia County received support from many federal, state, and local agencies and private partnerships. Those partnerships aided in all aspects of the ocean MCI, including planning, preparation, execution, and documentation.
- **Flexibility:** The VCEM's ability to handle exercise obstacles, such as scheduling conflicts, facilitated the success of both the TTX and FSE.

Resources

Volusia County's ocean mass casualty exercise was funded through a U.S Department of Homeland Security, Office for Domestic Preparedness grant. The grant paid for all exercise costs, including the purchase of an airplane fuselage.

Training

Volusia County's ocean MCI was conducted as part of an on-going annual terrorism exercise program conducted by VCEM. VCEM also conducted terrorism-related exercises in December 2002 and March 2004. Many of the concepts used in planning the ocean MCI scenario were derived from the previous two exercises' lessons learned.

Links

Volusia County Government Homepage

<http://volusia.org/>

United States Coast Guard

<http://www.uscg.mil/uscg.shtm>

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