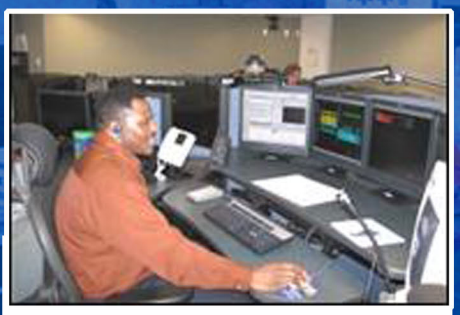
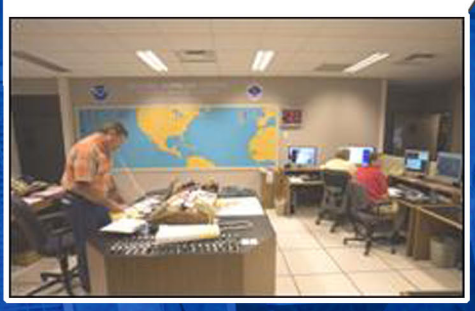
Virginia Department of Emergency Management

VERTEX 2010





November 10, 2010

- Incident Management Cadre Tabletop
- VECTOR Workshop
- VECTOR Functional Exercise

Executive Summary

Virginia Department of Emergency Management

CRA

2010 Virginia Emergency Response Team Exercise Series

Executive Summary
Prepared for the General Assembly

November 10, 2010

Abstract: This document contains an overview of the exercise play of the 2010 Virginian Emergency Response Team Exercise (VERTEX) activities, to include, scenario details, Exercise Objectives and agency participation. For additional information please contact Hampton H. Hart, Jr., Director, Office of Training and Exercises), 804-516-5777, Hampton.hart@vdem.virginia.gov or Aaron Kesecker, State Exercise Training Officer at 804-840-4270, aaron.kesecker@vdem.virginia.gov

ADMINISTRATIVE HANDLING INSTRUCTIONS

1. The title of this document is the Virginia Department of Emergency Management (VDEM) 2010 Virginia Emergency Response Team Exercise (VERTEX) Functional Exercise (FE) After-Action Report/Improvement Plan (AAR/IP).

2. For more information about the exercise, consult the following points of contact:

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CONTENTS

HANDLING INSTRUCTIONS 2

EXECUTIVE SUMMARY 4

SECTION 1: EXERCISE OVERVIEW 8

SECTION 2: EXERCISE DESIGN SUMMARY 10

EXECUTIVE SUMMARY

The Virginia Department of Emergency Management (VDEM) 2010 Virginia Emergency Response Team Exercise (VERTEX) Functional Exercise (FE) was developed to test the Virginia Emergency Response Team's (VERT's) Communications, Critical Resource Logistics Distribution, Emergency Operations Center (EOC) Management, Emergency Public Information and Warning, Mass Care, and Volunteer and Donations Management capabilities. The exercise planning team comprised numerous and diverse agencies that make up VERT. Discussions during planning focused on the creation of a realistic and challenging scenario for VERT participants to address the day of the exercise. The solution was a hurricane scenario that would cause widespread damage to the Hampton Roads Region and then move inland and cause wide-spread flooding and a dam failure in Western Virginia.

VERTEX 2010 was conducted through the use of three different types of exercises. The first, conducted on January 6, 2010 was the Virginia Emergency Response Team, Incident Management Cadre (IMC) Tabletop Exercise (TTX)

The VDEM ICM TTX was developed to examine the Virginia Emergency Response Team's EOC management and critical resource logistics and distribution procedures and protocols. The exercise planning team was composed of numerous divisions within the agency to include Public Affairs, Operations, Local Support Services, and Office of Training and Exercises. The planning team discussed logistical support to local jurisdictions and gubernatorial inauguration activities during a severe winter storm. The TTX served as an opportunity for newly assigned personnel within the Operations Division to validate their understanding of the VEOC's policies and procedures.

The next exercise in the 2010 VERTEX Exercise Series was the Virginia Evacuation Coordination Team for Operational Response (VECTOR) Workshop held on Wednesday, May 5, 2010 at VDEM Headquarters, Trade Court Facility. The purpose of the 2010 VERTEX VECTOR Workshop was to assess the preparedness system and effectiveness and efficiency of the Commonwealth of Virginia Emergency Operations Plan (COVEOP), Virginia Emergency Operations Center's (VEOC's) Standard Operating Procedures (SOPs), and VECTOR SOP.

Finally, on June 2, 2010 The 2010 VERTEX Functional Exercise focused on the actions that would be taken after the hurricane made landfall and moved inland. The exercise sought to test VEOC participants and their ability to handle the ongoing issues of a hurricane that caused widespread damage in the Hampton Roads Region while dealing with flooding issues that unfolded in and around Covington, VA. The 2010 VERTEX FE was designed to establish a learning environment for players to exercise emergency response plans, policies, and procedures as they pertain to floods. The format of the exercise was an inject-driven event exercising all VEOC Emergency Support Functions (ESFs).

Based on the exercise planning team's deliberations, the following objectives were developed for the 2010 VERTEX FE:

- **Objective 1:** Demonstrate the adequacy of emergency response plans regarding the command, control, coordination, and communication of public health and medical response strategies most needed to decrease illness, mortality, and other adverse consequences (**Capabilities: Communications/Mass Care/Volunteer and Donations Management).**

- **Objective 2:** Assess the ability of the joint information system to provide emergency information to the media and the public (**Capabilities: Communications/Emergency Public Information and Warning)**.

- **Objective 3:** Evaluate the effectiveness of the VERT to conduct response operations and to share critical information with participating jurisdictional EOCs and maintain situational awareness with Federal and State agencies (**Capabilities: Communications/EOC Management)**.

- **Objective 4:** Evaluate the ability of the VERT to manage mission requests and mission assignments and to monitor resources allocated to those missions (**Capabilities: EOC Management/Critical Resource Logistics Distribution)**.

Major Strengths

Throughout the functional exercise, several strengths in the VEOC's current capability to coordinate emergency operations in the Commonwealth were identified. The major strengths identified during this exercise are as follows:

- VEOC participants demonstrated excellent teamwork and communication throughout the exercise. Although the workload was challenging, all participants were pulled together to accomplish their respective missions.

- VEOC participants recognized the need for update briefings. The organization, leadership, and collaboration of all teams in the exercise allowed for close coordination as they worked to produce a mid-day update for State officials and incoming VEOC workers.

- The exercise provided an excellent hands-on training for WebEOC and helped validate existing knowledge while identifying issues and potential improvements for future discussions.

Primary Areas for Improvement

Throughout the exercise, several opportunities for improvement in the VEOC's ability to respond to an incident were identified. The primary areas for improvement, including recommendations, are as follows:

- Participants were not completely familiar with the WebEOC platform used in the VEOC and found it difficult to use, which resulted in several issues with mission tracking. Participants also identified areas in which WebEOC should be improved.
- All ESFs need to identify a staffing plan and organizational structure to include in their standard operating procedures (SOPs). After clarifying this SOP need, all ESF members should be trained on the updated staffing plan to increase efficiency, and avoid confusion and potential issues related to understaffing. A template to provide information for update briefings should also be included in each ESF's SOPs.
- While the WebEOC software platform is of enormous value to the VEOC, participants should be encouraged to collaborate in discussions when needed to complement existing communication procedures and ultimately expedite some responses to mission requests.

Recommendation

The VERTEX exercise series should continue to focus training and exercises on the VEOC mission areas of Mission Tracking, Local Liaison, and the Public Information Office. Though these areas performed admirably during this exercise, some changes or increased training may be needed to improve on current capabilities. A continued training and exercise focus will allow these areas to build on the existing skills and improve their respective VEOC mission response capabilities for the future.

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SECTION 1: EXERCISE OVERVIEW

Exercise Details

Exercise Name

Virginia Department of Emergency Management (VDEM) 2010 Virginia Emergency Response Team Exercise (VERTEX) series

Type of Exercise / Exercise Date(s)

Incident Management Cadre Tabletop, Wednesday January 6, 2010

VECTOR Workshop, Wednesday, May 5, 2010

VERTEX Functional Exercise, Wednesday, June 2, 2010

Duration

IMC TTX-Four Hours

VECTOR Workshop-Six hours

VERTEX FE-Six Hours

Locations

VEOC, 7701 Midlothian Turnpike, Richmond, VA 23235

VDEM HQ, 10501 Trade Court, Richmond, VA 23236

VBEOC, 2508 Princess Anne Road, Virginia Beach, VA 23456

Sponsor

VDEM

Program

Fiscal Year 2010 State Homeland Security Grant Program

Mission

Response and recovery

Capabilities

- Communications
- Critical Resource Logistics Distribution
- EOC Management
- Emergency Public Information and Warning
- Mass Care
- Volunteer and Donations Management

Scenario Type

Hurricane, flooding response

Number of Attendees

VERT IMC Tabletop: 25

VECTOR Workshop: 62

VERTEX Functional Exercise: 148

Participating Organizations

The following Federal, State, and local agencies attended the 2010 VERTEX Exercise Series:

Federal Agencies/Private Non-Profits	State Agencies	Localities
U.S. Department of Housing and Urban Development American Red Cross FeedMore, Inc. The Salvation Army Civil Air Patrol	Virginia Department of Agriculture and Consumer Services Virginia Department of Aviation Virginia Department of Behavioral Health and Developmental Services Virginia Department for the Blind and Vision Impaired Virginia Department of Criminal Justice Services Virginia Department of Emergency Management Virginia Department of Environmental Quality Virginia Department of Fire Programs Virginia Department of General Services Virginia Department of Health Virginia Department of Housing and Community Development Virginia Department of Human Resource Management Virginia Department of Military Affairs Virginia Department of Rail and Public Transit Virginia Department of Social Services Virginia Department of Transportation Virginia Housing Development Authority Virginia Information Technologies Agency Virginia Office of the Attorney General Virginia State Police Virginia Tourism Corporation Virginia Volunteers Active in Disasters	City of Chesapeake City of Hampton City of Newport News City of Norfolk City of Virginia Beach

SECTION 2: EXERCISE DESIGN SUMMARY

Exercise Purpose and Design

The purpose of the 2010 VERTEX exercise series was to assess the preparedness system, effectiveness, and efficiency of the Commonwealth of Virginia's Emergency Operations Plan (COVEOP) and the Virginia Emergency Operations Center's (VEOC's) Standard Operating Procedures (SOPs), as well as the VECTOR SOP. More specifically, participants were evaluated based on their ability to direct, communicate, and coordinate Virginia's response and recovery efforts.

Exercise Objectives, Capabilities, and Activities

Exercise	Objectives	Capabilities & Activities
Incident Management Cadre Tabletop Exercise	1. Review and discuss the VERT - Incident Management Cadre's plans and procedures to maintain situational awareness to support future operations. 2. Review and discuss resource management and support capabilities, plans, and procedures to maintain resource availability and mange appropriate resources in support of operational objective.	• Emergency Operations Center Management • Critical Resource and Logistics Distribution
VECTOR Workshop	1. Discuss the Commonwealth's plans and identify courses of action to support the evacuation and sheltering of a large population in anticipation of a hurricane impacting the east coast. 2. Determine requirements to locate, acquire, and plan for the distribution and accounting of critical personnel, facilities and materiel in support of the response. 3. Verify the procedures to coordinate and to share critical information with jurisdictions and provide emergency information to the media and the public.	• Citizen Evacuation and Shelter in Place, Mass Care, (Sheltering, Feeding and Related Services) • Communications • Emergency Operations Center Management • Critical Resource and Logistics Distribution • Emergency Public Information and Warning

Exercise	Objectives	Capabilities & Activities
VERTEX Functional Exercise	1. Demonstrate the adequacy of emergency response plans regarding the command, control, coordination, and communication of public health and medical response strategies most needed to decrease illness, mortality, and other adverse consequences 2. Assess the ability of the joint information system to provide emergency information to the media and the public 3. Evaluate the effectiveness of the VERT to conduct response operations and to share critical information with participating jurisdictional EOCs and maintain situational awareness with Federal and State agencies 4. Evaluate the ability of the VERT to manage mission requests and mission assignments, and to monitor resources allocated to those missions	• Communications • Mass Care/Volunteer and Donations Management). • Emergency Public Information and Warning • EOC Management • Critical Resource Logistics Distribution

Scenario Summary

Incident Management Cadre Tabletop Exercise (IMC TTX), January 6, 2010. The purpose of the exercise was to review the preparedness, effectiveness and efficiency of the Commonwealth of Virginia's Emergency Operations Plan (COVEOP); Standard Operating Procedures, as well as, review the relevant issues raised from the response to the December 2009 Winter Storm and discuss procedures for the support of the Gubernatorial Inauguration on January 16, 2010.

VECTOR Workshop May 5 2010, focused on hours 144 to 132 on the Hurricane Evacuation Action Timeline. A Category 2 Hurricane, ZULU requires the Operations Coordinator to call in the VECTOR group and discuss recommendations for "State of Emergency Declaration". Based upon the threat we desire the recommendation of a Declaration to be implemented at + or – 120hrs. Labor Day weekend is a factor in all considerations. VECTOR will identified agency requirements for implementation of plans. A second Module 2 picked up at hours 120-96 on the Evacuation Timeline and focused on the discussion and further development of the elements necessary to execute the approved order. These elements will be presented to the State Coordinator and/or the Secretary of Public Safety.

VERTEX Functional Exercise June 2, 2010, focused on a period near the end of August, when a hypothetical tropical storm developed in the Atlantic and gained strength as it moved west. After 5 days in the open waters of the Atlantic, on Wednesday, September 1, 2010, the tropical storm is upgraded to a hurricane and given a name – Hurricane Zulu. Hurricane models continue to predict potential impact between Jacksonville, FL, and Ocean City, MD.

Thursday, September 2, 2010

The National Hurricane Center (NHC) warns there are no steering currents that would cause Hurricane Zulu to turn away from making landfall in the continental United States and projects no weakening of existing storm conditions due to the warm Atlantic waters. By Friday, September 3, 2010, the hurricane is expected to become a Category 3 level on the Saffir-Simpson Hurricane Scale and Models indicate a track that includes a possible landfall along the coast adjacent to Hampton Roads on the morning of Tuesday, September 7, 2010.

As a result of this advisory, Commonwealth agencies designated with responsibilities under the Hurricane Emergency Response Plan closely monitor the situation and activate Readiness Condition 4. Several other agencies (including Virginia Department of Emergency Management (VDEM), Virginia State Police (VSP), Virginia Department of Transportation (VDOT), Virginia Department of Military Affairs, Virginia Department of Health, Virginia Department of Corrections, Virginia Department of Fire Programs, Virginia Department of Social Services (VDSS), Virginia Department of Forestry, Dominion Virginia Power, and the American Red Cross) increase preparations for the impending hurricane.

Friday, September 3, 2010

By September 3rd, Hurricane Zulu's path now becomes clearer for those living in the Hampton Roads area. Hurricane Zulu is predicted to produce severe wind damage, storm surges in some areas up to 13 feet, and up to 6 inches of rain. Approximately 900 thousand people live in the storm surge areas for a Category 3 hurricane.

Saturday, September 4, 2010

In response to the NHC update on Hurricane Zulu, at 7:30 a.m., Governor Bob McDonnell, by Executive Order, declares a state of emergency throughout the Commonwealth; to include all State Managed Shelters (SMS). The latest advisory from the NHC caused Commonwealth agencies to transition into Readiness Condition 3. The VDEM Public Affairs Office disseminated information encouraging citizens to prepare for a hurricane affecting the Commonwealth. This information was sent to media and local emergency managers as well.

Tuesday, September 7, 2010 - Hurricane Landfall

On the morning of September 7, the hurricane reached its peak, with sustained winds at the inner wall of the eye of the storm recorded at 125 mph. At approximately 9:30 a.m., the hurricane made landfall in Dare County, NC, just south of Hampton Roads and coastal resort city of Virginia Beach, VA. However, Hampton Roads was still hit extremely hard, with over 10 inches of rain since the afternoon of September 5. A storm surge of 13 feet accompanied the storm in some areas of coastal VA. Forward movement of the storm system was slowed by a strong high-pressure weather pattern.

The outer bands of the Hurricane have now spawned tornadoes in Portsmouth, Chesapeake and Isle of Wight. The hurricane's immediate impact varied, but most regions experienced widespread power outages. These outages left most traffic lights not working across Hampton Roads, resulting in multiple minor car accidents. Additionally, most gas stations were closed, due to power outages leaving the pumps unusable.

Wednesday, September 8, 2010

Major portions of Hampton Roads were completely submerged during the height of the storm. Low-lying areas experienced flooding associated with the record amounts of rainfall associated with the storm. Structures in areas less than 11 feet above sea level and within 500 yards of the shoreline have received flood damage and destruction. 100,000+ disaster victims would not be able to immediately return to permanent housing within the Hampton Roads region. Factories, chemical plants, sewage treatment plants, and other facilities in Hampton Roads have suffered severe damage. Hundreds of thousands of gallons of hazardous substances spilled into the floodwaters. The catastrophic hurricane resulted in more than 125 fatalities and over 1,500 people have sustained injuries requiring immediate treatment.

Thursday, September 9, 2010 - Hurricane Moves Inland

By Thursday, September 9, the hurricane and its remnants have completely moved out of the Hampton Roads area. The storm was downgraded to a tropical storm, with sustained winds at 60 mph near the barely discernable eye. The rain associated with the storm caused rivers and lakes to overflow their banks, and several rivers' systems experience record flood levels, in particular the Chowan River Basin.

Models indicated that the path of the remnants of Hurricane Zulu would take the storm over parts of central and southwestern Virginia, where it was expected to dump 5–20 inches of rain. The weather system was expected to move north-northeast until meeting a stationary front that has been hovering just east of the Appalachian Mountains, stalling the storm and increasing its rain potential. Over the course of several weeks prior to the landfall of Hurricane Zulu, a series of summer storms have saturated the ground along the Appalachian Mountain chain. Each successive storm has arrived before stream and river levels can return to normal. As a result, the latest storm has increased the water levels within the Upper James River drainage basin to levels of minor flooding.

Friday, September 10, 2010

The United States Army Corps of Engineers (USACE) at the Gathright Dam in Alleghany County notifies the State EOC As the pool exceeds or is forecast to exceed the record pool of 1598 feet, a Pre-Emergency Condition (Stage I) is declared. The Integrated Flood Observing and Warning System (IFLOWS) flood gauge in Alleghany County, Covington, and Clifton Forge issued alerts overnight that the river has already reached flood stage because of the heavy rains. Extremely heavy downpours produce a rise from 1600 to 1610 feet over a 12-hour period. An Emergency Stage II is declared, as failure is possible. The USACE notifies the State EOC.

The USACE notifies Alleghany County, Bath County, Covington, Clifton Forge, and the State EOC that failure of the dam is imminent. Covington reports that nursing homes are evacuating patients to hospitals.

The dam became fully breached in the area of Clearview. At the MeadWestvaco mill in Covington, pipes that cross the river are being ruptured by debris flowing in the floodwaters. Large amounts of hazardous chemicals have been dumped into the rushing floodwaters and are likely to severely contaminate water supplies downstream and in Gala, the gas plant became completely covered by floodwaters. In Buchanan, in addition to wide-ranging flooding of the entire downtown area, the local water and sewage treatment facility is completely flooded and unable to operate.

Saturday, September 11, 2010

Like those in Hampton Roads, Jurisdictions in Region 6 report widespread power outages, and property damage assessments continue as a result of the inundation from the Dam breach. At this point, the affected region has approximately 60,000 customers without power from the Dam failure. Appalachian Power crews report damage to power lines, transformers, and several substations throughout the Jackson River Valley. The power company reports that several thousand residents in the cities of Covington and Clifton Forge, as well as Bath and Allegheny Counties, are affected. Service is not expected to be restored for at least another 3 to 7 days while parts and equipment from out of state are received and installed. The power company assures residents that everything is being done to restore power. USACE staff is staged in the area by FEMA and are prepared to assist with supplying emergency generator power to critical infrastructure.