

## **A DISCUSSION ON HURRICANE PREPAREDNESS, LESSONS LEARNED, AND A LOOK BACK ON HURRICANE IKE**

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### **Abstract**

This discussion is an inside look at the ongoing process of hurricane preparedness from the perspective of the State's Environmental Agency.

### **1. PROGRESS FOR HURRICANE PREPAREDNESS**

Texas Homeland Security Strategic Plan/Emergency Management Plan The State of Texas Emergency Management Plan (EMP), which is Part III of the Texas Homeland Security Strategic Plan, lays out the responsibilities of the Texas Commission on Environmental Quality (TCEQ) and each state agency in preparing for, responding to and recovering from, natural and/or manmade disasters and emergencies. TCEQ's responsibilities include being the primary agency for Annex Q in the EMP, Hazardous Materials and Oil Spill Response, and a support agency eleven other annexes.

The TCEQ also has responsibilities under the State's Hurricane Response Plan, a supplement to the State of Texas EMP including oversight of water and wastewater infrastructure, fuel waivers, and participation with re-entry operations.

New Texas Division of Emergency Management (TDEM) Rapid Response Task Force The widespread devastation caused by Hurricane Ike in the 2008 hurricane season resulted in intensive state efforts to improve response management of such disasters.

Rapid Response Task Force: The need to enter impacted areas as quickly as possible to provide support for the citizens and local governments has been the focus of the TDEM's Rapid Response Task Force planning. As part of this task force TCEQ is tasked with supporting the objectives of restoration of the essential functions of government including priority restoration of water and wastewater systems, as well as providing interoperable communications.

The TDEM Rapid Response Task Force was created to be a four-pronged task force (4 teams) to support multiple impacted areas. TCEQ is a participating state agency on all 4 teams.

All TCEQ staff participating on the Rapid Response Task Force teams have been fully trained in the Incident Command System (ICS), levels 100, 200, 700 and 800.

New TCEQ Hurricane Continuity of Operations Plan The TCEQ Homeland Security Program has consolidated all of the agency's hurricane planning and response initiatives into a single "Hurricane Plan". The purpose of this new plan is to better define the organization, operational concepts, responsibilities, and procedures to adequately prepare for and respond to a catastrophic hurricane which impacts the Texas Gulf Coast and subsequent response and recovery operations.

The plan outlines TCEQ Headquarters and Regional responsibilities to maintain its continuity of operations, prepare staff, equipment and facilities to meet the hazards, and carry out TCEQ obligations laid out in the State of Texas EMP and other state and federal emergency response rules, regulations and guidance to respond in the impacted areas after landfall and assist the impacted facilities and authorities to recover and return to normal operations.

New TCEQ Incident Support (IS) Teams Once the State Rapid Response Task Force Teams have entered the impacted area and established an operational area under Area/Unified Command, a TCEQ Incident Support (IS) Team may be deployed to support the task force. The function of the IS Teams will be to fill positions in ICS General Staff, emergency response field positions, the local EOC or the DDC as needed. The TCEQ currently has 10 IS Teams, which are all fully trained in ICS.

## **2. LESSONS LEARNED**

Incident After Action Review and Lessons Learned Carried Forward The TCEQ carried lessons learned from Hurricanes Katrina and Rita into the agency's response to Hurricanes Dolly and Ike.

The lessons learned from the recent response to Hurricanes Dolly and Ike have now been incorporated into the new TCEQ Hurricane Plan to help build upon past successes. A few of these lessons learned include:

- Preparing for multiple centers of operation and extended responses.
- Increasing the pre-planning on debris management sites to help minimize public health and safety issues and facilitate cost recovery efforts for local government.
- Increasing the training depth and number of incident support staff.

## **3. A LOOK BACK ON HURRICANE IKE**

The TCEQ's Response to Hurricane Ike Hurricane Ike, which developed into a Category 5 storm, was originally predicted to veer away from Texas. However, Ike made landfall along Galveston Island as a strong Category 2 storm on September 13, 2008. Due to the size of the storm, Ike caused a significant storm surge which pushed across barrier islands and far into coastal counties, carrying debris from destroyed structures, mud and sediment, hazardous materials containers, and salt water along with it. This impact confronted TCEQ Regions in Beaumont and Houston with massive response and cleanup responsibilities, even in the face of having their offices taken off-line due to widespread power outages. However, the TCEQ maintained its continuity of operations and responded by performing the following duties as part of the response to the Hurricane Ike disaster:

- TCEQ was part of Texas Task Force Ike, a 500 plus vehicle convoy of local, state, and federal emergency responders that arrived in the Galveston area and setup a fully operational command post within a few hours of Hurricane Ike passing through the area.
- TCEQ operated seven days a week conducting hurricane response and recovery actions for more than six weeks after landfall.
- TCEQ expended over 70,000 staff hours directly on Ike response and recovery operations.

- TCEQ led the hazardous materials recovery effort, forming a Unified Command with other state and federal partners to respond to the task of assessing and collecting hazardous materials displaced by the storm. This effort led to the identification and evaluation of over 5,000 hazardous material target areas and collection of 46,000 hazardous material containers, including orphan drums, tanks, and household hazardous waste.
- TCEQ Unified Commands were established in Pasadena, Port Arthur, and on Galveston Island.
- TCEQ evaluated almost 1,400 Public drinking water systems and over 700 wastewater treatment plants in ten counties that served over 7 million people.
- The Agency also tracked over 1,200 Boil Water Notices issued by affected drinking water systems.
- TCEQ provided the oversight for the management and disposal of storm debris.
- Issued “burn guidance” letters to local jurisdictions giving authorizations for burning vegetative materials to help reduce the amount of debris going into landfills.
- TCEQ set up a Debris Management Hotline to assist local jurisdictions in setting up 170 temporary debris management sites.
- TCEQ visited all of the temporary storm debris management sites multiple times to ensure safe operations and help facilitate cost recovery efforts for local governments.
- TCEQ assessed over 380 square miles for storm surge residue.
- TCEQ assessed 28 landfills and conducted mobile air monitoring in the hurricane impact zone.