

AN EMERGENCY CALLS FOR AN EXPERT RESPONSE



F H E A S P R I N G M E E T I N G
M A Y 1 7 , 2 0 1 9

PRESENTED BY



MEDXCEL

SCOTT MCCORMICK,
CHE, CHFM, CHSP
Facilities Manager



**JACKSON
HOSPITAL**

KEVIN DANIEL,
CHE, CHFM
Director of Engineering



GHP

MARK SMITH,
AIA, LEED, AP
Vice President,
Florida Operations



GHP

CHIP GRUBER,
MBA, CSP, LAC
Director of
Environmental Studio,
Florida Operations



GHP

ERIC SCHMIDT
Project Manager

Hurricane Michael Statistics

- * Landfall between Mexico Beach & Tyndall AFB 10/10/18 12:30 pm cst.
- * Max wind speed 160 mph (Cat 5), initially 155 mph (Cat 4).
- * 9 Foot storm surge Port St. Joe FL., 14 Foot surge Mexico Beach FL.
- * 47 Deaths attributable to storm, 7 direct fatalities.
- * 2 hospitals in Bay County required evacuation due to extensive damage.
- * Bay, Gulf, Jackson and Franklin Counties all 100% power failure.
- * Bay, Gulf, Jackson, and Franklin Counties all experienced water outages.
- * 25.1 Billion dollars in damage (storm total).

Hurricane Michael Lessons Learned SHHG

- 1) Communications are vulnerable!
SHHG lost all contact with the outside @ landfall.
- 2) Have strong MOUs outside region, nationally is better.
Resources will be quickly overwhelmed in the vicinity.
- 3) Plan for supplies to last minimum of 5 days with no resupply.

*SHHG was cut off due to HWY wash-outs; I-10 closed for 100mi due to trees down on both sides.

Hurricane Michael Lessons Learned SHHG

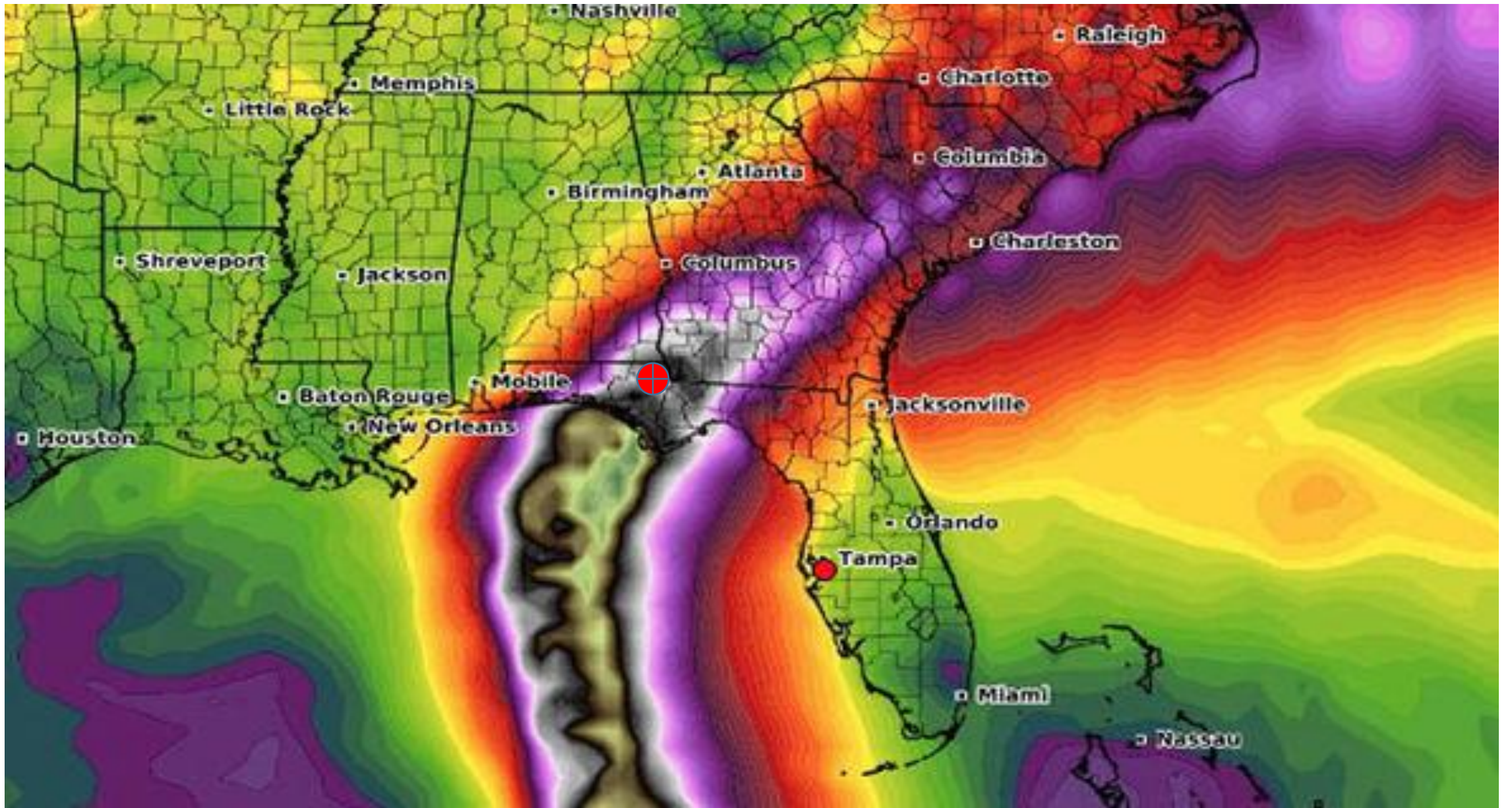
4) Cut over to Generator power early.

We lost VFDs due to power bumps.

5) Document and save everything. FEMA will require documentation on ALL spending and will be very thorough.







10/10/18

DOWNTOWN – HISTORIC MARIANNA





BACKGROUND

- 100% of Jackson County residents were without power immediately post storm.
- 3.5 weeks post hurricane, an estimated over 30% remained without power.
- 50+% of population use wells for water. Wells require electricity.
- Estimated 80% of trees were destroyed.
- Still rated a category 4+ when Michael hit Marianna.
- Marianna was in the eye of the storm.
- Third most powerful hurricane to hit the US, behind the 1935 Labor Day hurricane and Hurricane Camille of 1969. It was also the strongest storm in terms of maximum sustained wind speed since Andrew in 1992.

IMPACT ON JACKSON HOSPITAL

- Utility power lost at Hospital for 9 days plus multiple small outages during post hurricane cleanup. Offsite facilities out of power up to multiple weeks.
- Water pressure lost, or significantly reduced, causing a compromised Fire Sprinkler System. This forced us to evacuate patients the morning after the Hurricane.
- Communications were disrupted – no land lines, no cell service.
- Roads – both local and interstate were impassible for traffic in, or out.
- Offsite facilities experienced everything from total destruction (roof collapse) to very minimal damage. Many roofs damaged and tree removal was extensive.

LESSONS LEARNED

- Cut over to Generator when first power drops start to protect equipment. We also lost multiple VFDs due to power irregularities.
- We maintain a generator specifically for normal power backup which helped greatly to keep the entire facility with HVAC, food, and all lighting and outlets functional.
- Water is extremely important – no water means no fire protection, no cooling, no boilers, no sterilization. Even with MOUs in place – if they can't get there with the water, or any other item, you're in trouble. We are currently planning an on-site emergency water system and attempting to procure funds from the State.
- Expect the unexpected. We temporarily lost an electrical panel in our boiler room that was on a mezzanine 22 feet off the ground and 22 feet from sidewall vents in the building due to water being blown in through the vents.

LESSONS LEARNED (cont.)

- Be prepared post hurricane - Cleanup can cause issues as well. Power line reconstruction, debris removal, etc. We had a dump truck hit a main power feeder line pole. There was also a short reduction of water pressure when the power company hit a water line while resetting poles.
- Communications – make sure you have satellite phones and possibly a ham radio at the facility and have current contact information. We even lost 911 service for a while.
- Generator fuel – keep tanks full and take any shipments you can get. Be very careful who delivers to you though – we received contaminated fuel at some point and after the hurricane, we had to spend ~\$7,500 to clean our fuel.
- Be very careful with remediation contractors.



A satellite image of a tropical cyclone, showing a distinct eye and spiral cloud bands over a dark blue ocean. The surrounding landmasses are green and brown. A white rectangular border frames the central part of the image where the text is located.

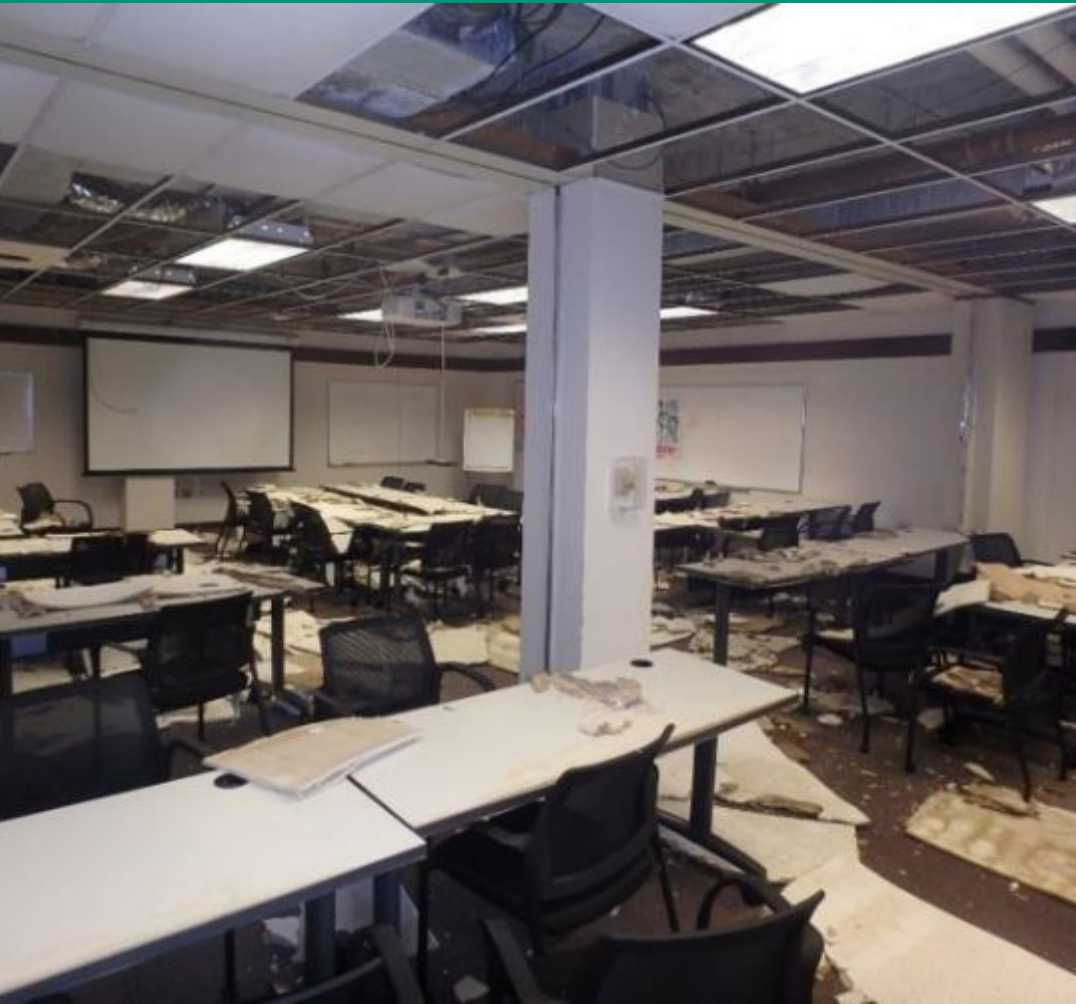
**WHAT IS AN
EMERGENCY RESPONSE?**

WHAT IS AN EMERGENCY RESPONSE?

For our discussion, an emergency response is a response to an unforeseen event that disrupts normal operations and could adversely impact patient safety and damage to an asset/building.

- Sewage Backup or Sanitary Line Rupture
- Sprinkler Line or Domestic Water Line Burst
- Hurricane + Storm Preparation/Response
- Indoor Air Contamination
- Construction-Related Incident





IS YOUR COMPREHENSIVE EMERGENCY MANAGEMENT PLAN (CEMP) CURRENT?

Including the following:

- ⚠️ Infection Control Measures
- ⚠️ Water Loss Incidents
- ⚠️ Asbestos Management
- ⚠️ Legionella Contamination
- ⚠️ Indoor Air Quality

WHAT PREPARATIONS OTHER THAN CEMP DO YOU NEED?

- Current Set of Life Safety Plans
- Familiarity with Locations of All Plumbing Control Valves
- Contact List of Emergency Response Consultants/Contractors
- Internal Emergency Response Team





WHO IS IN THE CHAIN OF COMMAND?



Who needs to be on the response team?

- Facility Engineering
- Environmental Services
- Respective Department Heads
- Infection Control Nurse
- Executive Team
- Outside Consultants/Contractors

WHAT OUTSIDE CONSULTANTS / CONTRACTORS ARE NEEDED?

- Licensed Architect
- Professional Engineer
- Asbestos Inspector
- Licensed Mold Assessor
- Licensed Remediation Contractor



A satellite image of a tropical cyclone, likely a typhoon, over the Pacific Ocean. The cyclone is characterized by a dense, swirling cloud structure with a distinct eye in the center. The surrounding ocean is a deep blue, and the landmasses of Southeast Asia and the Philippines are visible in the lower right. The text is overlaid on the cyclone's eye and inner rings.

**NECESSARY STEPS
PRIOR TO ARRIVAL
OF ER TEAM**



NECESSARY STEPS | PART 1

Internal Water Loss: Sprinkler or Domestic Water Line

- Shut off water flow if possible
- Contain the water
- Isolate the impacted areas
- Begin water evacuation

NECESSARY STEPS | PART 2

Internal Sanitary Sewer Loss:

- Halt waste flow if possible
- Contain and isolate the impacted areas
- Begin effluent evacuation



NECESSARY STEPS | PART 3



Document the event as follows:

- What was the source
- When did it start
- When and how was it contained
- What departments/areas have been impacted
- What are priority levels for affected areas
- Retain any faulty or failed component

An aerial satellite-style photograph of a tropical cyclone, showing a distinct eye and spiral cloud bands over a dark blue ocean. The surrounding landmasses are green and brown. A white rectangular border frames the central part of the image where the text is located.

INCIDENTS DURING CONSTRUCTION



INCIDENTS DURING CONSTRUCTION

- Wallboard exposed prior to dry-in
- Sprinkler lines/heads not protected
- Temporary roof not adequately installed
- Plumbing lines (sanitary or storm) not connected properly

INCIDENTS DURING CONSTRUCTION



A satellite image of a tropical cyclone, likely a typhoon or hurricane, is shown over the Indian Ocean. The storm features a distinct eye and a dense, swirling cloud structure. The surrounding ocean is a deep blue, and the landmasses of Southeast Asia and Australia are visible in shades of green and brown. The word "SCENARIOS" is overlaid in large, white, bold, sans-serif capital letters across the center of the storm's eye.

SCENARIOS



SCENARIO #1

Hospital staff notice a sewer smell on the first floor and notify engineering. No overflowing toilets are identified, but there is a discovery of a clogged sanitary sewer line and a rupture at a corroded joint in the crawlspace causing a steady flow of waste water.



SCENARIO #1 RESPONSE

- Clear out the blockage
- Repair the damaged pipes
- Spread lime on the impacted ground area and work into the soil
- Pump truck to vacuum out the treated soil in the crawlspace
- Install vapor barrier in affected and remediated area of crawlspace

SCENARIO #2

On a Friday afternoon, a member of your engineering staff bumps into a sprinkler head while changing lightbulbs, releasing sprinkler water into the facility. He does not know where the shut-off valve is, so he radios the rest of the maintenance staff—many of whom have left for the day. Finally someone arrives and shuts off the valve but not before 500 gallons of water is released into the corridor and down to the three floors below.





SCENARIO #2 RESPONSE

Emergency Response Contractors to initiate the following:

- Extract water
- Install HEPA filter air movement and dehumidifiers to start drying
- Moisture map impacted areas
- Remediation contractor to contain impacted areas with ICRA
- Commence remediation of saturated materials as follows:
 - Attempt to dry moderately wet materials (48-72 hours)
 - Cut and replace deteriorated materials



SCENARIO #3

A heavy rainstorm with strong winds blows through the area. Water infiltrates the facility through numerous windows, a few roof leaks and a storm drainage backup on the first floor.



SCENARIO #3 RESPONSE

Emergency Response Contractor to initiate the following:

- Extract water
- Install HEPA filter air movement and dehumidifiers to start drying
- Moisture map impacted areas
- Remediation contractor to contain impacted areas with ICRA
- Commence remediation of 1st Floor Cat 3 water as follows:
 - Contain Cat 3 impacted areas separately
 - Cut and replace deteriorated material

A satellite image of a hurricane over the ocean, with the text "THANK YOU" overlaid in the center. The hurricane is a large, circular storm system with a distinct eye and spiral cloud bands. The surrounding ocean is dark blue, and the landmasses are green and brown. The text "THANK YOU" is written in a bold, white, sans-serif font, centered horizontally and vertically over the hurricane's eye.

THANK YOU