AN EMERGENCY CALLS FOR AN EXPERT RESPONSE

FHEA SPRING MEETING
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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.
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.
WHAT IS AN EMERGENCY RESPONSE?
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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
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
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
INCIDENTS DURING CONSTRUCTION
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- 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
**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.
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
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.
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
THANK YOU