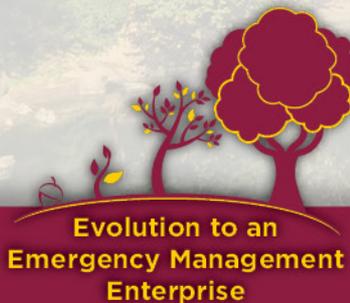


# The Emergency Management Enterprise (*Panel Discussion*)

July 7, 2015

Facilitator: Michael Gresalfi, Ph.D.

Panelists: Jose Berrios, Robert Gee,  
Melanie LePard, Brian Murphy,  
Tom Roston, Joe Stambaugh

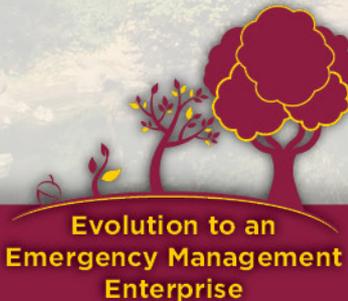


**29th Annual Meeting** • July 6-10, 2015 • Shepherdstown, West Virginia  
National Conservation Training Center (NCTC)

# To Improve, Unify, and Strengthen The Department's Emergency Management Enterprise

## Senior Leaders' Intent:

*To improve the fundamental attributes of DOE/NNSA emergency preparedness, daily operations and crisis response programs, across the "all-hazards" spectrum, by unifying the present constellation of hazard and site-specific emergency operations centers and programs within a standardized Department-wide Emergency Management Organization.*



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# Brief Introductions

## Facilitator:

- Michael Gresalfi, Senior Advisor, Office of Emergency Operations (NA-40)

## Panelists:

- Jose Berrios, Director of Emergency Management, NA-41
- Robert Gee, Manager, Emergency Management Program, Y-12
- Melanie LePard, Manager, Emergency Operations Center, SRS
- Brian Murphy, Headquarters Emergency Response Officer, NA-40
- Tom Roston, Senior Advisor, NA-40
- Joe Stambaugh, Director of Emergency Operations Support, NA-44



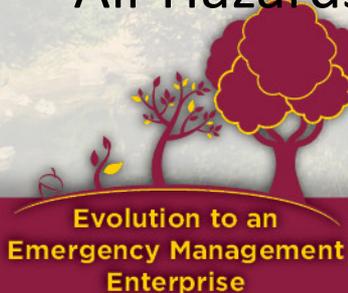
# The Emergency Management Enterprise

## Enterprise Improvements

- Emergency & Incident Management Council
- Unified Command Structure
- Consolidated Emergency Operations Center
- DOE 151.1 (in revision)
- All-Hazards Focused

## Enterprise Challenges

- Cultural Shift to DOE Integrated All-In Response
- Develop “Governance Policies and Practices”
- Gain Proficiency through Training, Drills, Exercises
- Sites/Plants/Labs become Co-Owners of Enterprise



# Some Artificialities & Ground Rules

- This facilitated (panel-focused) session will be conducted in a no-fault learning environment.
- The panelists will respond to the scenario as being plausible, and the audience will accept that events occur as presented.
- The facilitator and panelists will base their discussions on the entire scenario
- Different sites, response teams and hazard specific resources and assets will engage in the scenario at different times.
- For simplicity, not every affected DOE facility is discussed



# A Cascading 4 Day Long Multi-Hazard Scenario

- Multiple hazards over a four day period require the activation and deployment of several DOE emergency response elements. The events include a tornado causing damage and radiological release at Y-12, a hurricane affecting both the Savannah River Site and the National Capital Region, and a cyber-threat impacting DOE information systems.



# Day 1—Hurricane Medusa

- At 3:00am on Day 1 - the DOE HQ Watch Office is monitoring a quickly developing tropical system in the Atlantic Ocean that it has been tracking for several days.
- Models produced by the National Hurricane Center indicate that Hurricane Medusa will make landfall along the U.S. coast near the Georgia/South Carolina border by Day 3.



# Day 1—Hurricane Medusa (cont)

- At 1:00pm on Day 1 - FEMA has activated Emergency Support Function (ESF) 12 for Incident Management Assistance Team (IMAT) East 1 and 2, Regions III, IV, and the National Resource Coordination Center (NRCC).
- At 3:00pm on Day 1 - The Office of Energy's (OE) Energy Response Organization activates at a level III and is providing updates to DOE leadership on the developing storm and its impact on DOE facilities and the energy infrastructure along the eastern seaboard



# Discussion –Qs and As

- What functions are the Watch Offices (Site and HQ) performing at this time?
- What would SRS be doing at this point?
- What would Y-12 be doing?
- Is the Unified Command at HQ activated –and if Yes, what is it doing to support SRS and Y-12?
- What is happening in the CEOC?



# Discussion – Qs and As

- As the “Battle Rhythm” is developed and promulgated, how will it be coordinated across the Enterprise (Roles of Site Management, EIMC & UCG?)
- What does the Site need/expect from HQ’s?
- What processes activate/deploy these DOE/ESF Assets?
- What is the governance for DOE assets assigned to the IMATs?



# Day 2— Site Emergency at Y-12

- At 8:00 AM on Day 2, a line of thunderstorms moving across eastern Tennessee spawn an EF3 tornado that touches down on the Y-12 National Security Complex in Oak Ridge, TN.
- Reports and alarms indicate damage to buildings and some minor injuries to facility personnel.
- The DOE Watch Office is immediately notified of the situation by Y-12, and local response assets deployed to the scene
- The Watch Office at DOE headquarters notifies Department leadership of the emerging situation at Y-12.



# Day 2— Site Emergency at Y-12 (cont. 2 of 3)

At 10:00am on Day 2, Y-12's initial damage assessment

- Numerous alarms (security, water flow, etc.)
- One building has partially collapsed, one other has structural damage
- Heavy smoke and flames reported in a third building
- Radiation breach suspected from containment area (material unknown)
- 30 minor injuries, some also with detectable contamination
- Several buildings have broken windows
- As the day continues, hundreds of “worried well,” and also some with minor physical injuries, show up at both the Y-12 emergency clinic and at the downtown Oak Ridge hospital.



## Day 2— Site Emergency at Y-12 (cont. 3 of 3)

- The State of Tennessee requests assistance from, the Radiological Assistance Program (RAP) Region 2 team based in Oak Ridge
- Medical organizations in the area request support from the Radiation Emergency Assistance Center / Training Site (REAC/TS) in case contaminated or injured personnel are brought to their facility.
- All injured are triaged, monitored for contamination and transported to the appropriate medical facilities.



# Day 2 and SRS Medusa Impacts

- At 2:00pm on Day 2, DOE HQ Watch provides an update on Hurricane Medusa. It is anticipated to make landfall in the next 24 hours with potential impacts to the DOE Savannah River Site.
- The DOE Energy Response Organization has increased its activation to a level II. ESF 12 Responders have deployed to the FEMA Region IV IMAT, Regions III and IV Response Coordination Centers (RRCCs), as well as the NRCC is providing 24/7 support.



# Day 2 and We Add a Cyber Threat

- At 9:00 PM On Day 2, DOE's Joint Cybersecurity Coordination Center (JC3) receives an Alert from the DHS's Computer Emergency Response Team (US-CERT).
- A cyber threat foreign adversary has compromised DOE's Energy IT Services, to include some operational codes at several nuclear power plants.
- Over 5,000 vulnerable account credentials have been attained during this long-term intrusion.



# Discussion – Qs and As

- Can you describe the Command and Control of this event? At Y-12? At SRS? At HQ? At State/FEMA?
- How would DOE/NSSA respond to this event given the Enterprise is in an Operational Status?
  - Site Watch/Site EOC and CEOC Interfaces/Roles/Responsibilities
  - Emergency & Incident Management Council (EIMC) Charter/Roles
  - Unified Coordination Group (UCG) CONOPS/Roles
  - CATs/LNOs/SMEs Activated – Site and CEOC links, and to UCG



# Discussion- Qs and As

- How would the anticipated landfall of Hurricane Medusa impact the response to the TN Tornado?
- What would the impact of the DHS US-CERT report be on the on-going response to the Tornado and preparedness actions for the Hurricane?
- What is happening in the CEOC?
- What is happening in the UCG?



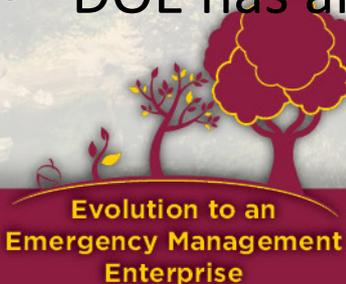
# Day 3 – Y-12's Radiation Response

- Following the tornado & radiological release, the Nuclear Incident Team activation continues throughout Day 3.
- Aerial Measuring System aircraft map the area and find a limited radiological release, but are concerned that the contamination has gone beyond the Y-12 boundaries.
- The NIT and EMT continue to coordinate information and manage resources in response to the facility emergencies still taking place at Y-12 and also at SRS.



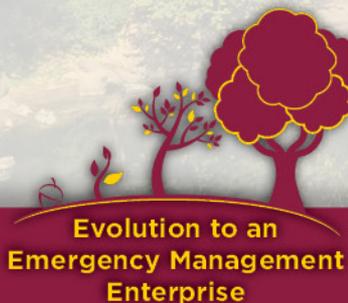
# Day 3 – CAT 3 Medusa Hits SRS and is headed toward Washington DC

- Meanwhile, the National Weather Service reports that Hurricane Medusa made landfall between Savannah, GA and Hilton Head, SC as a Category 3 hurricane at noon EST, and its tracking for Washington DC.
- The Energy Response Organization has increased its activation to a level I 24/7.
- ESF12 is deployed 24/7 at the NRCC, RRCC, District of Columbia EOC, Virginia EOC, Maryland EOC, and Georgia EOC. ESF12 is also deployed on the Regions III and IV IMAT.
- DOE has an LNO on the National IMAT EAST 1 and 2.



# Day 3 – It's A Bad Day Indeed!

- DOE's JC3 receives an updated advisory from DHS US-CERT that one of the critical vulnerabilities discovered allows for remote code execution of plant equipment - equipment which interfaces with motor controllers at nuclear power generating plants.
- This vulnerability might allow hostiles to inject malicious commands and falsified measurements that can override plant safety controls.



# Discussion- Qs and As

- What is SRS doing at this time?
- How is Y-12 handling the ongoing situation
- What is role of the UCG with respect to how FEMA, State, and Local requests for assistance & additional resources are met?
- How could landfall of the Hurricane impact delivery of the resources requested by the State of TN? If it does impact the resources, how is this de-conflicted?



# Discussion- Qs and As

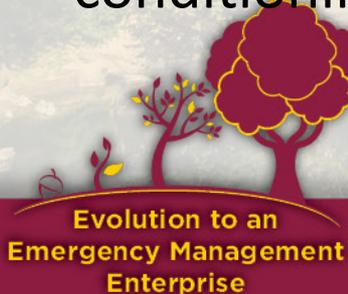
- How will DOE , working with the Energy Sector leads, coordinate this Cybersecurity threat information?
- What other role does the DOE Emergency Management Enterprise (to include the EIMC-CEOC-UCG) have regarding this cyber threat?
- How does the DOE enterprise maintain the necessary control and situational awareness of all three of these incidents?



# Day 4 – Will This Never End!

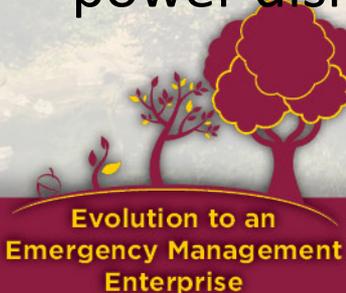
The DOE HQ Incident Management Team (IMT) provides DOE leadership with the following information on storm impacts to two DOE Headquarters facilities:

- Forrestal – No wind damage or flooding reported. Some intermittent power outages as rain squalls pass through the District.
- Germantown – Several tree branches are blocking the road on the South side of the DOE complex. A power outage has disabled the chiller plant and the building does not have air conditioning. The building is on backup generator.



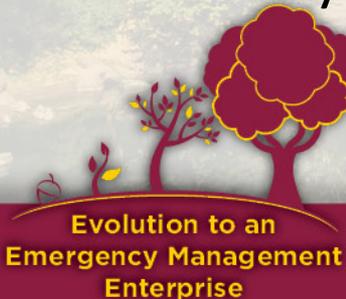
# Day 4 – Lots Of Balls In The Air!

- Meanwhile, both the DOE HQ's Nuclear Incident Team (NIT) and the Emergency Management Team (EMT) continue to coordinate information and manage resources in response to the facility emergencies still taking place at Y-12 and SRS.
- At the same time, OE's Emergency Response Organization provides support to the ongoing impacts of Hurricane Medusa.
- OE personnel warn that cascading effects from damage to the region's electrical delivery system could cause large-scale power disruptions along the entire East Coast of the U.S.



# Day 4 – The Cyber Challenges Continue

- DOE's JC3 receives an incident report from multiple plant operators indicating that they currently employ the affected components and that the manufacturer reports there is currently no immediately known remediation or mitigation action.
- A DOE laboratory reports that its internal Cyber Security Incident Response Team is having significant challenges remediating multiple cyber intrusions stemming from the leaked account credentials and the inability to remotely access key control and management systems.



# Discussion- Qs and As

- What types of strategic direction would the EIMC be providing to the UCG, and how will it be interfacing with the White House and other Federal Leadership?
- What kinds of reports would we need to be providing to DOE Leadership, the White House, Congress?



# Discussion – Qs and As

- What is happening at the Site EOC and in the CEOC?
- Has the compliment of UCG members changed?
- How is the UCG helping the affected sites close core capability gaps, and provide additional resources?



# Wrap-Up

- Need to identify, train, exercise, and meet readiness metrics, to effectively respond to all-hazards complex cascading events
- Within a to-be-developed Unified Command Structure
- Utilizing a to-be-constructed CEOC
- With Sites and Headquarters working in tandem
- With the full engagement of event specific crisis action teams
- And Will Require: New CONOPS, New CONPLANS, DOE Order Revisions, New Policy-Guidance-SOPs, and especially an Enterprise Supportive Culture, Complex-Wide!

