

Defense Board Recommendation 2014-1

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Office of Emergency Management

DOE/NNSA

NA-41

July 9, 2015



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DNFSB Recommendation 2014-1 Parade of Documents

Wednesday, September 3rd, 2014

Recommendation Delivered to DOE

Tuesday, September 23rd, 2014

Rec 2014-1 Printed in Federal Register

Monday, December 1st, 2014

DOE Response Printed in Federal Register

Wednesday, April 29th, 2015

DOE Implementation Plan Received



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“Recent high visibility, high consequence accidents”

- March, 2014: Defense Nuclear Facilities Safety Board communicates to the Secretary of Energy its concerns regarding shortcomings in the response to a truck fire and radioactive material release event at WIPP
- DOE Accident Investigation Board documented these shortcomings in its report
- Board says many of the site-specific response issues noted at WIPP also exist at other sites

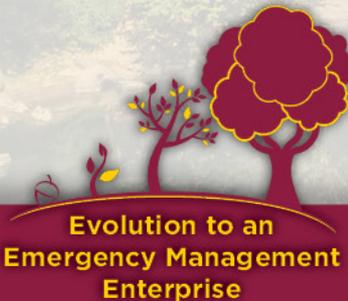


“momentum for continuous improvement has faded”

- Board interest in state of emergency preparedness and response predates Fukushima
- 1998: Board issued Recommendation 98-1*
- 1999: Board published Tech-21**

* Recommendation 98-1 is titled, *Resolution of Issues Identified by Department of Energy (DOE) Internal Oversight.*

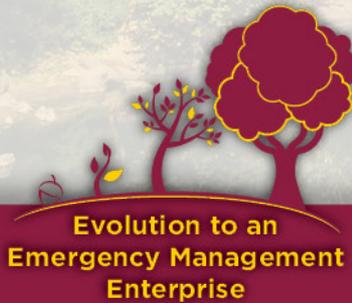
** Tech-21 is short for Technical Report -21, *Status of Emergency Management at Defense Nuclear Facilities of the Department of Energy.*



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Fukushima

March 11, 2011



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The 3 Questions



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The First Question

- *Does DOE provide facility workers, response personnel, and emergency management decision makers with adequate direction and guidance to make timely, conservative emergency response decisions and take actions that focus on protection of the public and workers?*



First Question: Observations

- Technical Planning Documents
 - Hazard Assessments
 - Emergency Action Levels
 - Protective Actions
 - Severe Events
- Training and Drills
- Exercises



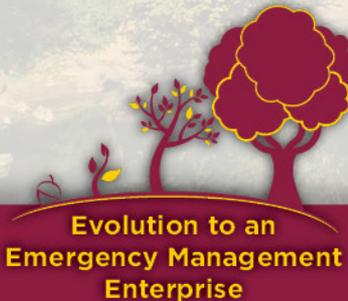
The Second Question

- *Does DOE provide adequate equipment and hardened facilities that enable emergency response personnel and emergency management decision makers to effectively respond to emergencies and protect the public and workers?*



Second Question: Observations

- Facilities and Equipment
 - Problems with survivability, habitability, and maintenance
 - Problems with communications and notification systems



The Third Question

- *Do the contractor assurance systems and DOE oversight provide an effective performance assurance evaluation of emergency preparedness and response?*

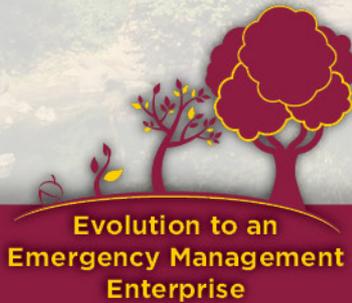
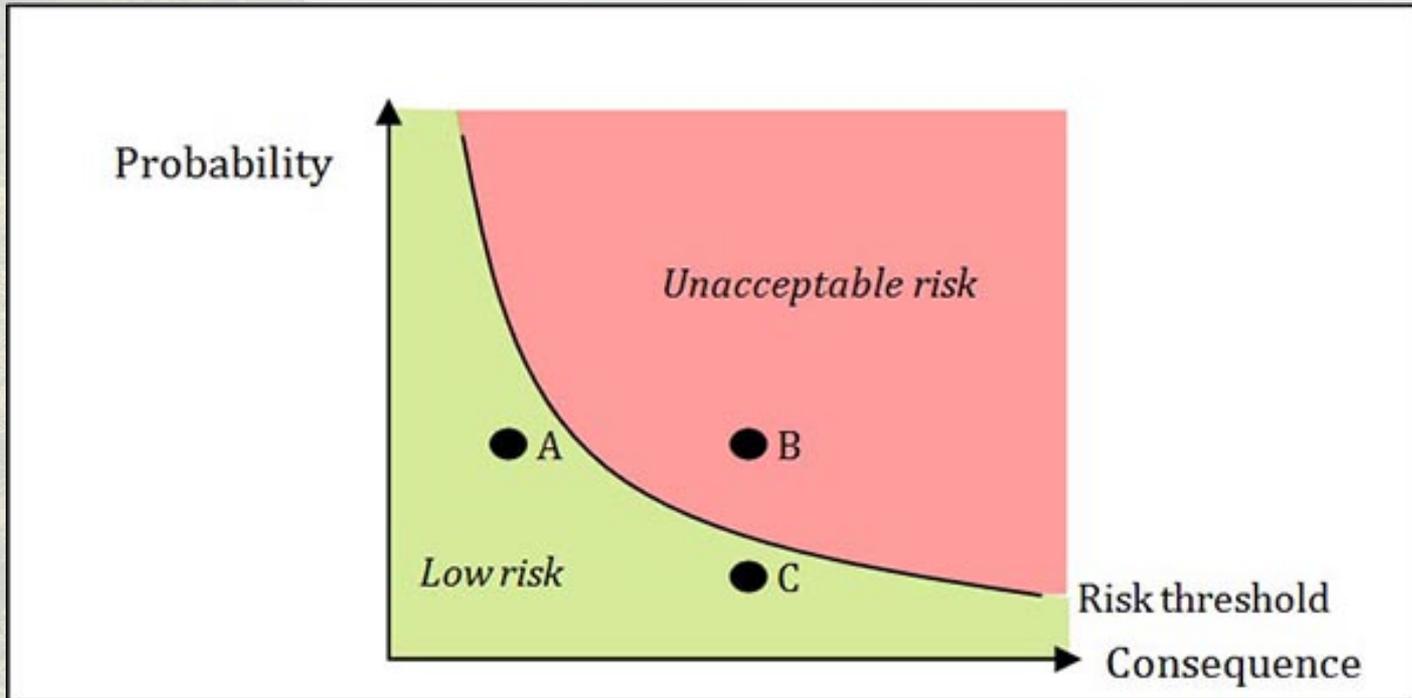


Third Question: Observations

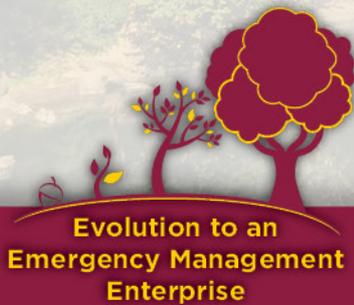
- Oversight and Assessment
 - Federal Independent Oversight
 - Federal Line Oversight
 - Contractor Oversight



Severe Events

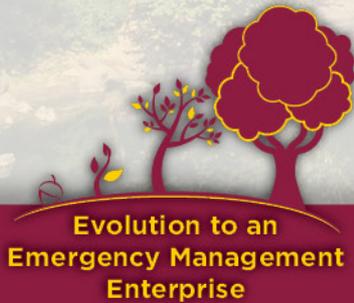


Asteroid?



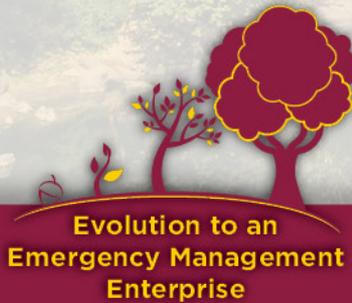
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Mars Attacks!?



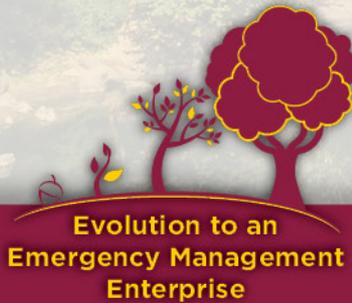
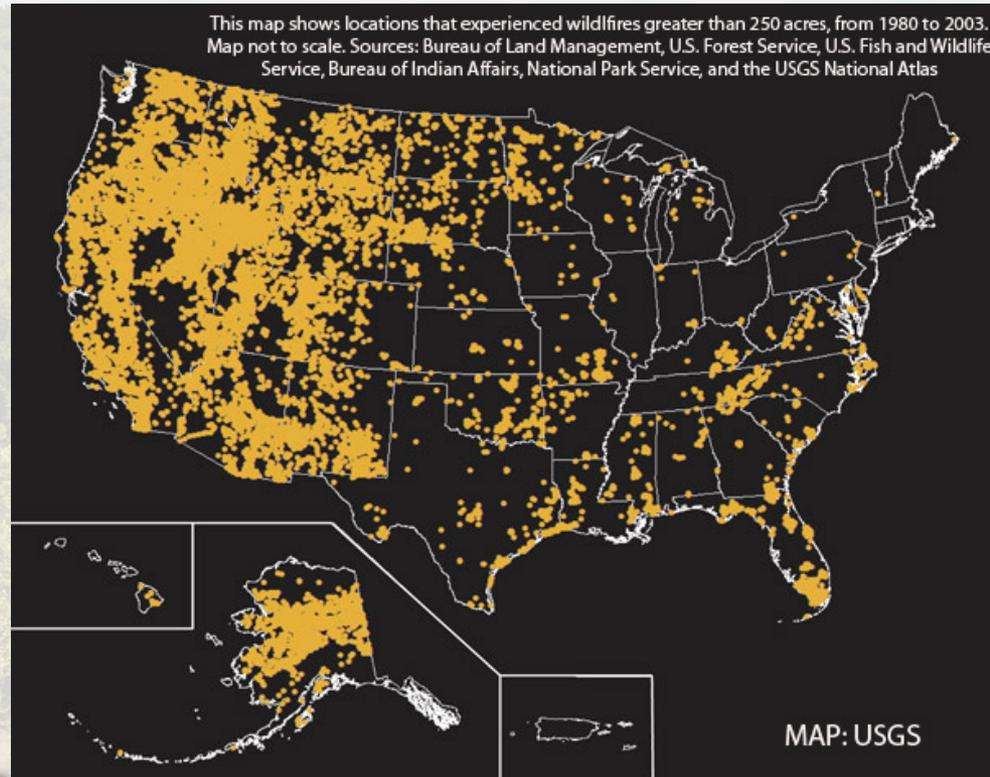
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Wildland Fire?



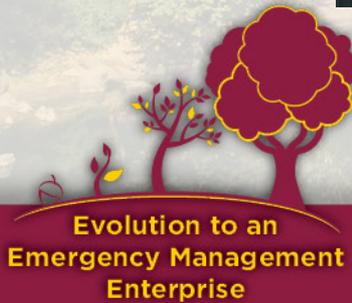
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Wildfire Map



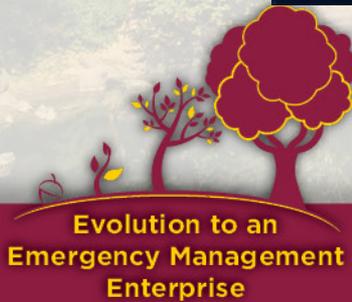
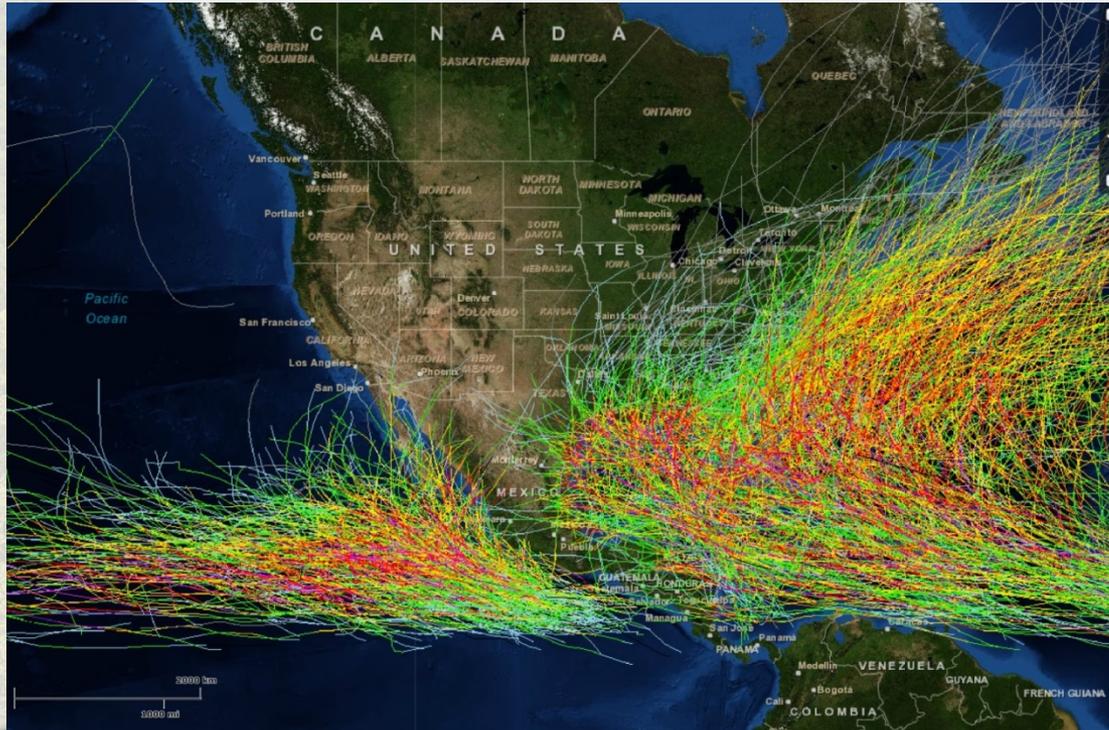
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Hurricane?



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Hurricane Map



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Severe Events

- **Gaps in requirements and guidance:**
 - Clarify definition of “severe event”, i.e. how much preparation is enough?
 - Existing requirements focus on individual facilities- no direction on evaluating multi-facility events
 - No methodology for prioritizing response to multi-facility events
 - Need to incorporate self-help and basic preparedness training
 - Need to develop logistical process for providing food, water, other essentials to on-site responders



3 Questions ➔ 2 Recommendations

1. Standardize and improve implementation of its criteria and review approach to confirm that all sites with defense nuclear facilities:

- Have a robust emergency response infrastructure that is survivable, habitable, and maintained to function during emergencies, including severe events.
- Have a training and drill program that ensures that emergency response personnel are fully competent per DOE directives and guidance.
- Are conducting exercises that fully demonstrate their emergency response is capable of responding to scenarios that challenge existing capability, including their response during severe events.
- Are identifying deficiencies, developing and implementing effective corrective actions, and evaluating the effectiveness of these actions.
- Have an effective Readiness Assurance Program consistent with DOE Order 151.IC.



3 Questions ➔ 2 Recommendations

2. Update its emergency management directive to address:

- Severe events, including requirements that address hazards assessments and exercises, and "beyond design basis" operational and natural phenomena events.
- Reliability and habitability of emergency response facilities and support equipment.
- Criteria for training and drills, including requirements that address facility conduct of operations drill programs and the interface with emergency response organization team drills.
- Criteria for exercises to ensure that they are an adequate demonstration of proficiency.
- Vulnerabilities identified during independent assessments.





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