

# State of Illinois Review: Emergency Preparedness-Related Issues of Lessons Learned from the Fukushima Dai-ichi Event

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Paul Smith, Manager Nuclear Evaluation  
Section, Illinois Emergency Management  
Agency, Bureau of Nuclear Facility Safety

Springfield, Illinois

[paul.smith@illinois.gov](mailto:paul.smith@illinois.gov)

# State of Illinois Background Information

Illinois has the largest number of Nuclear Power Plants (NPPs) in the United States

- 4-Four Loop Westinghouse PWR Units
- 4-GE BWRs Units with Mark I Containment
- 2-GE BWRs Units with Mark II Containment
- 1-GE BWRs Units with Mark III Containment

Under a MOU with the NRC, Illinois has a resident inspection program with a Resident Inspector at each Illinois NPP

# State of Illinois Background Information

IEMA's mission is to minimize risk to the public due to radiological hazards posed by Illinois' nuclear facilities, radiological accidents, and acts of radiological terrorism

To help support our mission the State of Illinois participates in nine NPP exercises each year

- 3 FEMA Graded Exercises
- 3 Pre-Drills prior to the graded exercises
- 3 Utility off-year exercises

# State of Illinois Background Information

The IEMA Remote Monitoring System (RMS) was designed, built, installed and maintained by IEMA personal to continually monitors selected plant operational parameters at each facility and is capable of identifying and measuring the presence of radioactive materials in the surrounding environment.

The RMS consists of 3 separate subsystems:

- Reactor Data Link (RDL)
- Gamma Detection Network (GDN)
- Gaseous Effluent Monitoring System (GEMS)

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- In response to NRC Tier 3 recommendations 9.1 and 9.2 regarding “EP enhancements for prolonged SBO and multiunit events.”
  - IEMA supports the re-examination of EP enhancements for prolonged SBO and multiunit events. IEMA agrees with the concept of strengthening on-site response. However, when this does occur, IEMA will need to evaluate such changes for application and revision of our Standard Operating Procedures (SOPs) and training instructions associated with the Illinois Plan for Radiological Accidents (IPRA).

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- In response to NRC Tier 3 recommendation 9.3 regarding “ERDS Capability.”
  - IEMA has obtained 24/7 one-minute data updates from each of the nuclear power plants in Illinois for many years, so we do see the benefits of updating the NRC’s ERDS System.

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- In response to Tier 3 NTTF recommendation 10 “Additional EP topics for prolonged SBO and multiunit events” and NTTF recommendation 11 regarding “EP topics for decision-making, radiation monitoring, and public education”
  - IEMA would not only welcome the opportunity but would request to be involved in the evaluation, development, and review of any changes to emergency planning, as this would directly impact our programs / procedures, especially as it relates to exercises and training.

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## Additional Issues in SECY-11-0137 “Basis of Emergency Planning Zone (EPZ) Size”

- The current EPZ of 10 miles for the plume exposure pathway is based on NUREG-0396 (December 1978). This document determined that emergency response plans could be based upon a generic distance from which predetermined actions that would provide dose savings for any accident.
- IEMA believes that our current strategies for emergency planning zones are sufficient and there is no technical basis for expanding the EPZ beyond 10 miles. Detailed planning for the 10-mile EPZ does not preclude nor prohibit ad hoc protective actions taken beyond 10 miles using the same considerations as the planning for the 10-mile EPZ.



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## Additional Issues in SECY-11-0137 "Pre-staging of Potassium Iodide beyond 10 Miles"

- IEMA recently established a Potassium Iodine (KI) distribution plan that allows persons within the 10-Mile EPZ to obtain a supply of KI (along with usage instructions) at any local Walgreens within the 10-Mile EPZ to be utilized as directed by local radio and/or television stations based upon advisories from emergency response and health authorities.
- The White House Office of Science and Technology Policy (OSTP) invoked a waiver in January 2008 to not extend the range of 10-20 miles for the provision of KI.
- IEMA concurs with the waiver that evacuation and sheltering are the most effective protective measure in significantly reducing the total public exposure.

# State of Illinois EP Conclusions

IEEMA's review of the Tier 3 EP

Recommendations concluded that if a decision to change either of the two bullets listed below could diminish our limited resources thereby possibly endangering the public health and safety of those citizens most at risk within the existing 10-mile EPZ.

- A decision to Increase the Emergency Planning Zone size outside the existing 10-mile EPZ
- A decision to Pre-stage Potassium Iodide (KI) beyond 10 miles