

NRC Updates



Regional Radiological Emergency Preparedness Conference Philadelphia, PA January 20, 2016

Bob Kahler

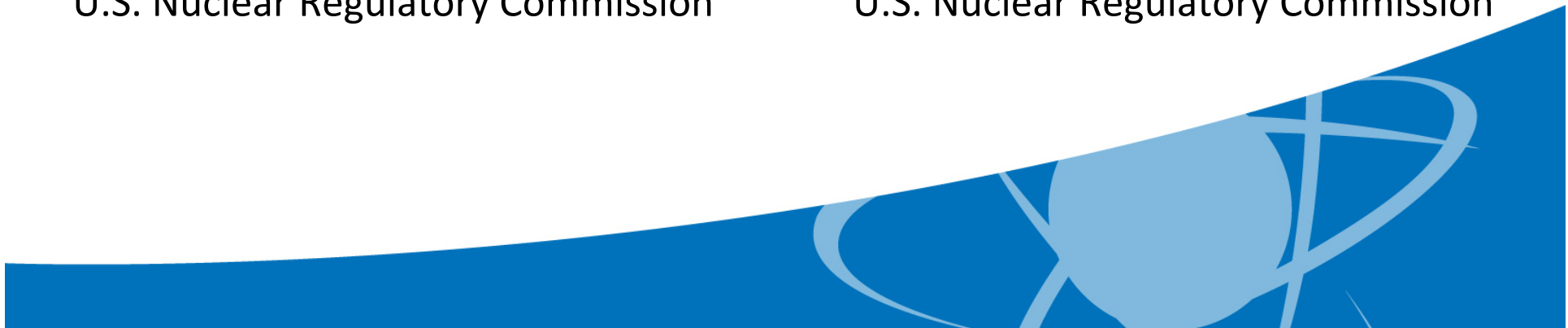
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NRC Updates



- NRC Study of OROs Intermediate Phase Capabilities & Practices
- NUREG-0654/FEMA-REP-1 Revision
- Evacuation Time Estimate (ETE) Study
- Small Modular Reactor Rulemaking



Offsite Response Organization Capabilities and Practices for Protective Actions in the Intermediate Phase of Emergency Response



**Regional Radiological Emergency Preparedness Conference
Philadelphia, PA
January 20, 2016**

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Background



- Offsite Response Organizations (ORO) have well practiced capability for early phase response in support of nuclear power plant emergency preparedness programs.
- Response after the accident has stabilized (i.e., radiological releases are controlled or identified) is topic to be studied by NRC.
- Study is being conducted by Obsidian Analysis, Inc.
 - Project Manager over 10 years experience at FEMA; Senior Advisor (interview facilitator) former director of NC EMA.

Intent of Study



- **Not** to drive regulation, seek changes to offsite oversight, or evaluate any ORO.
 - **May** identify best practices to be shared.
- Determine whether several assumptions made in consequence analyses are, or are not, realistic.
- Conduct interviews on a strictly voluntary, non-attribution basis to better inform ORO process for intermediate phase decision making
 - Publicly available FEMA Ingestion Pathway AARs reviewed



Questionnaire – Subjects



- Interviewees will be provided a fact sheet in advance – purpose; suggested functional area representation; request applicable plans/procedures be available for consultation.
- Focus Areas:
 - Evacuation Beyond the Plume EPZ
 - Hot Spots Beyond Evacuated Areas
 - Relaxation of Evacuation and Relocation Orders
 - Food Condemnation or Embargo
 - Water
 - Best Practices



Questionnaire – Example 1



HOT SPOTS BEYOND INITIALLY EVACUATED AREAS

- Would the State rely primarily on Federal assets to perform “hot spot” survey functions? Note that this may involve a wait of 24-36 hours.
 - Yes
 - No, State would rely primarily on its own assets
 - No, State would rely primarily on contracted assets
 - No, State would rely primarily on mutual aid assets
 - N/A, State will not seek identification of hot spots



Questionnaire – Example 2



RELAXATION OF EVACUATION AND RELOCATION ORDERS

- What are the criteria for relocation after initial evacuation?
 - 2 rem (20 mSv) projected does first year, 0/5 rem (5 mSv)/year in subsequent years [current EPA protective action guide]
 - 5 rem (50 mSv) over 50 years [former EPA protective action guide]
 - Other (explain)



Questionnaire – Example 3



FOOD CONDEMNATION OR EMBARGO

- Will food crops and livestock be released from the food control area?
 - Yes, if shown to be contaminated at a level below the criteria
 - Yes, if shown not to be contaminated at any detectable level
 - No, all food in the initial food control area will be condemned and destroyed to ensure public confidence in the State's agricultural industry



Interview Methods

➤ By order of preference:

- Face-to-face meeting with full interview group
- Remote meeting with full interview group
- Face-to-face interviews with state representative(s) attending a conference
- Group elicitation *en masse* as part of a conference program
- Written submission of completed questionnaire

➤ Full interview group:

- State Emergency Management Director
- REP Program Manager
- Department of Agriculture
- Department of Public Health
- Radiation Protection
- Public Information Officer
- Office of the Governor (if possible/appropriate)



Interview Targets



- Goal of interviewing at least one State in each FEMA Region with a commercial nuclear power plant

If you have suggestions—or are interested in arranging an interview for your state—please let us know. Contact information is at the end of this presentation.



Activities: To-date/Planned



- October 28th – National State Liaison Meeting
- November 5th – Pilot Interview with NC/ Presentation at FEMA RV Annual Meeting
- January 20th – Interview with CA/AZ at FEMA RIX REP Workshop/Northeast Regional REP Conference
- February 9th – NRC RIV TOP Conference



Timeline



- Task 1 – Complete questionnaire: September 2015
- Task 2 – Review of FEMA Ingestion Pathway Exercise AARs: December 2015
- Task 3 – Conduct Interviews of Cognizant ORO Decision Makers: August 2016
- Task 4 – Documentation: January 2017



Final Deliverable



- Produce a NUREG/CR document suitable for NRC publication.
- The document is expected to:
 - advance NRC understanding of ORO practices and capabilities.
 - inform guidance.
 - provide a technical basis for assumptions used by NRC to model protective actions in consequence studies and regulatory analyses.



Questions?



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NUREG-0654/FEMA-REP-1 Public Comments



- Extended Public Comment Period (from 90 to 135 days)
 - 29 Submitters / 609 Comments
- Key Comment Focus Areas
 - Table B-1 Staffing Levels / Augmentation Timeframes
 - Use of Joint Information System with Joint Information Center
 - Additional Drill Types / Exercise Evaluation Criteria
- Joint NRC-FEMA Comment Adjudication Process
- Regional EP Staff Involvement / Input



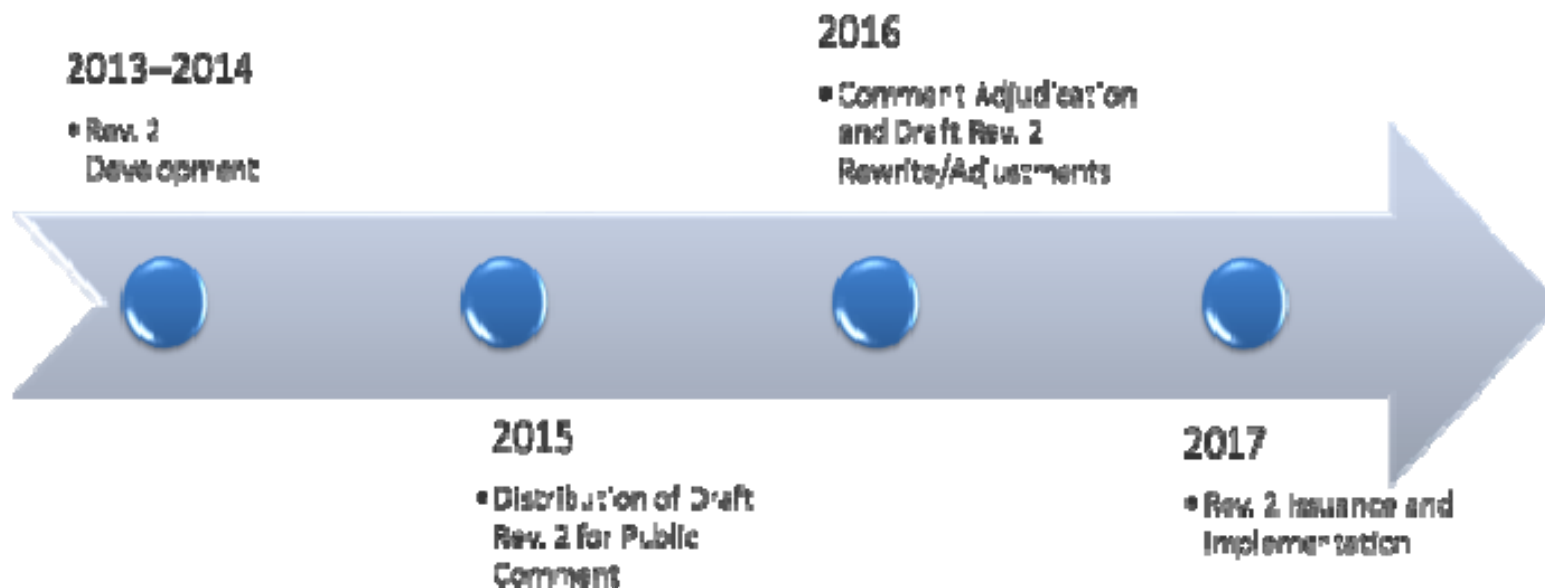
NUREG-0654/FEMA-REP-1

Path Forward



- 11/15-02/16: Comment Adjudication
- 03/16-04/16: Draft NUREG-0654, Rev. 2 Update Based on Comment Resolution
- 05/16-09/16: NRC and FEMA Concurrence
- 10/16-12/16: ACRS, DHS, and OMB Reviews
- 01/17: Final NUREG-0654, Rev. 2 Issuance / Implementation Sessions

NUREG-0654/FEMA-REP-1 Revision Timeline



NUREG-0654/FEMA-REP-1

Sample Format

Number & Applicability	Evaluation Criteria				
<p>A.1</p> <table border="1"> <tr> <td>Licensee</td> <td>State</td> </tr> <tr> <td>Local</td> <td>Tribal</td> </tr> </table>	Licensee	State	Local	Tribal	<p>The Federal, State, local, Tribal, licensee, and other private sector organizations that comprise the overall response for the EPZs are identified.</p>
Licensee	State				
Local	Tribal				
<p>A.1.a</p> <table border="1"> <tr> <td>Licensee</td> <td>State</td> </tr> <tr> <td>Local</td> <td>Tribal</td> </tr> </table>	Licensee	State	Local	Tribal	<p>The organizations having an operational role specify their concept of operations and relationship to the total effort.</p>
Licensee	State				
Local	Tribal				
<p>A.1.b</p> <table border="1"> <tr> <td>Licensee</td> <td>State</td> </tr> <tr> <td>Local</td> <td>Tribal</td> </tr> </table>	Licensee	State	Local	Tribal	<p>Each organization's emergency plan illustrates these interrelationships in a block diagram.</p>
Licensee	State				
Local	Tribal				
<p>A.1.c</p> <table border="1"> <tr> <td>Licensee</td> <td>State</td> </tr> <tr> <td>Local</td> <td>Tribal</td> </tr> </table>	Licensee	State	Local	Tribal	<p>Each organization identifies the individual, by title/position, who will be in charge of the emergency response.</p>
Licensee	State				
Local	Tribal				

ETE Study



Background:

- NRC research shows that evacuations are effective and can be improved through preparedness.
- Planning for evacuations is enhanced by the information contained in an ETE study.
- Regulations require periodic updates to ETEs and their use to inform protective action strategies.



ETE Study



Purpose:

- further NRC's response to the GAO's recommendation regarding shadow evacuations.
- provide insights to concerns related to ETEs.
- ensure NRC's methodology for ETE development reflects state-of-the practice.



ETE Study



Study:

- Principal investigator
 - Dr. Brian Wolshon, LSU
- Transportation network for three representative sites will be modeled.
 - low, medium, high population density EPZs.
- Will provide
 - independent assessment of modeling and simulation
 - inform implementation of evacuation strategies.
 - improve public knowledge of evacuations.
 - staff to consider improvements to guidance documents.

Small Modular Reactor Rulemaking



Background:

- SECY-11-0152, “Development of an Emergency Planning and Preparedness Framework for Small Modular Reactors”
 - Described a graded approach for EP for SMRs
- SECY-15-0077, “Options for Emergency Preparedness for Small Modular Reactors and Other New Technologies”
 - Staff requested approval of option to proceed with rulemaking

Small Modular Reactor (SMR) Rulemaking



Background:

- SRM-SECY-15-0077, August 4, 2015
 - Commission approved the staff's recommendation to initiate rulemaking
 - staff directed to provide Commission a plan and schedule in nine months of date of SRM
- TVA intends to request a 2-mile and site boundary emergency planning zone