

Here are the responses to the questions in your e-mail dated April 11, 2014.

1. Is this the only emergency exercise that included an earthquake as an initiating or concurrent factor?

Response: No. The exercise on October 30, 2012, at Catawba Nuclear Station also included an earthquake as an initiating event. Here is a link to the FEMA report: <http://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber='ML13085A035'>.

2. Are there examples of exercises that included other low-warning natural disasters as initiating or concurrent events (examples: tornados, tsunamis)?

Response: Yes. The exercise on October 18, 2011, at Calvert Cliffs Nuclear Power Plant included a tornado. Here is a link to the FEMA report: <http://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber='ML12102A083'>.

3. Are there examples of exercises that included extreme weather events that would disrupt transportation networks as initiating or concurrent events (examples: ice storms, heavy snowstorms)?

Response: Based on a brief search, I was unable to locate any exercise reports that described exercises including extreme weather events that would disrupt transportation networks as initiating or concurrent events. However, FEMA routinely simulates evacuation route disruption to test response. For example, page 18 of the FEMA report for the May 11, 2011, exercise at Callaway Nuclear Power Plant (<http://pbadupws.nrc.gov/docs/ML1121/ML112101649.pdf>) indicates that criterion 3.d.2 was evaluated for all 3 county emergency operations centers. Criterion 3.d.2 can be found in the REP Manual on page III-47 ([http://www.fema.gov/media-library-data/20130726-1917-25045-9774/2013_rep_program_manual_final2 .pdf](http://www.fema.gov/media-library-data/20130726-1917-25045-9774/2013_rep_program_manual_final2.pdf)).

4. Can you please provide additional documentation for this statement in the denial of our petition: “The **majority** of nuclear power plant licensees currently incorporate natural or destructive phenomena into their drill and exercise scenarios.” (First paragraph, NRC response to issue 13). (emphasis added)

Response: I cannot provide documentation for this statement because documentation is not available for many drills. However, I can explain the basis for the statement and the use of the word “majority.” Experienced NRC inspectors have indicated that nuclear power plant licensees regularly incorporate natural or destructive phenomena into their drill and exercise scenarios. Additionally, the NRC’s regulations (see Appendix E.IV.F.2 to 10 CFR Part 50) require licensees to conduct exercises that provide the opportunity for the emergency response organization to demonstrate proficiency in key skills necessary to implement the principal functional areas of emergency response. The NRC also has issued guidance that states that all emergency response organization teams shall be provided the opportunity to develop and maintain key skills during each 8 year exercise cycle in response to a prescribed set of scenario elements in each exercises cycle (see pp 30-31 of NSIR/DPR-ISG-01, “Interim Staff Guidance, Emergency Planning for Nuclear Power

Plants,”

<http://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber='ML113010523'>). One of these elements includes response to essentially 100% of initiating conditions for classification of emergencies. These include seismic events and other significant hazardous events specific to the plant site such as tornadoes, floods, hurricanes, dam failures, heavy rains, train derailment, toxic gas release, etc.

Please note that I will make this correspondence publicly available by adding it to the NRC's Agencywide Documents Access and Management System.

Dan Doyle

Project Manager
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(301) 415-3748

From: Michael Mariotte [<mailto:nirsnet@nirs.org>]
Sent: Friday, April 11, 2014 4:54 PM
To: Doyle, Daniel
Subject: Re: Status of PRM-50-104

Thanks! No problem,

Sent from my iPhone

On Apr 11, 2014, at 4:52 PM, "Doyle, Daniel" <Daniel.Doyle@nrc.gov> wrote:

Mr. Mariotte,

I cannot respond to your questions today, and I will be out next week. I will forward this to other staff, and I will try to get back to you with a response the week of April 21st.

Dan Doyle

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From: Michael Mariotte [<mailto:nirsnet@nirs.org>]
Sent: Friday, April 11, 2014 12:49 PM
To: Doyle, Daniel
Cc: Burnell, Scott; Bladey, Cindy; Helton, Shana; Inverso, Tara; NIRS
Subject: RE: Status of PRM-50-104

Dan,

Thank you.

I appreciate that the Palo Verde exercise indeed includes an earthquake as the initiating cause in this scenario. However, it is impossible to tell from this evaluation the size of the earthquake (obviously large enough to cause a steam generator tube rupture, granted), nor whether or how it affected offsite transportation capabilities. Indeed, it appears there was no disruption of transportation, since it appears that people were able successfully to get to offsite sheltering facilities without incident.

In the sense that this exercise shows considerable utility and government ability to make good decisions, we would view this exercise as a success. But in the sense that—as we saw at Fukushima—a real earthquake could cause considerable disruption of road and other transportation networks as a major factor in impeding evacuation, this exercise falls short of both demonstrating capability to handle such a situation as well as—perhaps more importantly to us—as a training exercise for participants in handling such a situation.

I have some additional questions for you:

1. Is this the only emergency exercise that included an earthquake as an initiating or concurrent factor?
2. Are there examples of exercises that included other low-warning natural disasters as initiating or concurrent events (examples: tornados, tsunamis)?
3. Are there examples of exercises that included extreme weather events that would disrupt transportation networks as initiating or concurrent events (examples: ice storms, heavy snowstorms)?
4. Can you please provide additional documentation for this statement in the denial of our petition: “The **majority** of nuclear power plant licensees currently incorporate natural or destructive phenomena into their drill and exercise scenarios.” (First paragraph, NRC response to issue 13). (emphasis added)

Our purpose in submitting our petition, and particularly this section of the petition, was to encourage better emergency preparedness for the American public and better training for emergency personnel at the utility and local and state governments. We remain very concerned that the training and preparedness remain inadequate and that scenarios presented for exercises and training do not present participants with the levels of challenges that real-world experience has shown can occur.

Thank you,

Michael Mariotte

President

Nuclear Information and Resource Service

From: Doyle, Daniel [<mailto:Daniel.Doyle@nrc.gov>]

Sent: Wednesday, April 09, 2014 4:33 PM

To: Michael Mariotte

Cc: Burnell, Scott; Bladey, Cindy; Helton, Shana; Inverso, Tara

Subject: RE: Status of PRM-50-104

Mr. Mariotte,

When we spoke on Tuesday, you asked if I could provide an example of how licensees currently incorporate natural or destructive phenomena into their drill and exercise scenarios. You also asked if they include earthquakes.

Please see the FEMA report available at the following link. This is an after action report from an exercise at Palo Verde Nuclear Generating Station on May 7, 2013. The initiating event was an earthquake.

<http://pbadupws.nrc.gov/docs/ML1319/ML13191B274.pdf>

More after action reports are available at the following website:

<http://www.nrc.gov/about-nrc/emerg-preparedness/related-information/fema-after-action-reports.html>

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