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Re

From: Thomas, George
To: Khanna, Meena
Cc: Manoly, Kamal; Li, Yong
Subject: RE: briefing at 7:30 am
Date: Monday, August 29, 2011 7:00:30 AM
Attachments: Earthquake at North Anna Summary Report - Friday 8-26 (3).docx

Meena,

I made some changes to the inspection summary document in the attached. I have made 8 copies of these.

Thanks.

George

From: Khanna, Meena
Sent: Sunday, August 28, 2011 11:05 PM
To: Li, Yong; Thomas, George
Cc: Manoly, Kamal
Subject: briefing at 7:30 am
Importance: High

Yong and George, I left you copies of the latest version of the material that we are going to use at the 7:30 am briefing. I marked who is speaking to the various sections on the hard copies. Pls note that we only have 20 mins for the presentation, so pls only discuss the high level important info; you don't have to speak to everything on the sheet, as they can read the info too. I'll see you in the morning prior to the meeting..thanks so much.

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Report on Status of Activities at the North Anna Site (August 25 & 26, 2011)

Yong Li and George Thomas from NRR/DE were at the North Anna site on 8/25 and 8/26 to evaluate the issues related to the recent earthquake. They were briefed by the licensee, and presented questions from NRR/NRO/RES to the licensee, and collected documents. They looked at Earthquake instrument panel in the control room, and conducted walkdowns of the Turbine Building, Aux. Building, Spent Fuel Pool (SFP) and the transformer yard. A summary of the status of the visit, to date, is provided below:

- The licensee conducted the 1st general walkdown of the plant with focus on functionality and damage to safety-related SSCs (except inside the containment) within 8 hours as required by the North Anna Power Station abnormal procedure for seismic event. The walkdown was performed in accordance with the station guidance document for Systems Engineering Walkdowns. From the walkdown, the licensee identified many discrepancies for which condition reports have been written. The damages noted were generally minor.
- Among the items identified through the initial walkdown, the bushing of all four transformers were found to be damaged and the oil leaked from the transformer which caused the turbine generator to trip, resulting in shutdown of the reactor. The other items were identified to be "superficial," such as, minor cracks on walls, loose insulation, conduits coming loose, sliding of some baseplate supports of tanks/valves, 25 of 27 ISFSI vertical casks moved horizontally 0.5 inches to 4 inches, etc. A ripple effect was observed in the SFP during the earthquake and the water turned cloudy. No weepage, wet areas or cracks were observed in the service water reservoir earthen dam.
- The licensee conducted the 2nd walkdown after the magnitude 4.5 aftershock triggered at 2 am on 8/25/11; however, no additional discrepancies were identified. In the mean time, the licensee is in the process of developing specific guidance in preparation for detailed walkdowns, as well as walkdown of containment.
- The licensee indicated that all seismic monitors are contained in the Unit 1 containment at different levels of the structures as well as in the auxiliary building. No seismic monitors are located in the Unit 2 building. Seismic instrument panel in the control room lost power for 8.2 seconds.
- Seismic Response Spectrum Recorder (Scratch plates) readings from the auxiliary building basemat and that at an upper elevation were sent to California to be interpreted by a vendor. We were informed that the strip chart time histories recorded on magnetic tapes initially sent to Calvert Cliffs were also sent to California to be interpreted. Those interpretations were received by the licensee for the auxiliary building. Scratch plates from Unit 1 containment basemat and operating floor levels have been sent to California on 8/26 for interpretation.

- Since the licensee doesn't have a seismic monitor located in the free field on the free surface, therefore, a strict comparison of ground motion for SSE and OBE is difficult. However, the staff confirmed with the licensee that design response spectra at the mat and different levels are available and a comparison can be carried out between the original design and the recorded data when all the seismic readings from the seismometers are confirmed.
- On August 26, the licensee declared all safety-related SSCs of Units 1 and 2 inoperable, based on growing pieces of evidence that the DBE ground motion may have been exceeded at the site.