

SECM

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Ostendorff, William

From: Franovich, Mike *ccmm*
Sent: Wednesday, August 24, 2011 3:07 PM
To: Ostendorff, William
Cc: Nieh, Ho; Kock, Andrea; Sexton, Kimberly
Subject: UPDATE: Summary of Commissioner Assistants Briefing on East Coast Earthquake

10:15 am call led by Joel Munday of Region II

- Licensee exited the ALERT late this morning. Offsite power restore last night through the reserve station service transformers (RSSTs).
- Mild after-shocks experience over night.
- The 2H EDG jacket water/radiator flange leak was repaired, EDG is available not but still needs to undergo a post-maintenance test.
- All EDGs and the SBO D/G are secured in standby mode.
- One reactor coolant pump was restarted on each unit.
- Unit 1 proceeding to cold shutdown. Licensee will conduct inspections in side containment.
- Once Unit 1 inspections are completed, Unit 2 will proceed to cold shutdown and operators will conduct inspections inside containment.
- Unit 2 main transformers have some reported insulator damage (no surprise here).
- There is no reported fuel damage or increased reactor coolant system leakage.
- The common spent fuel pool has a minor increase in detectable radiation. The earthquake shook the pool and some crud is suspended in solution causing cloudy water visibility. Although there is cooling to the SFP, the filtration system is not running yet.
- Seismic monitor scratch plate (etched based on seismic motion) being sent to California for analysis/results interpretation.
- Preliminary assessment by NRC suggest possible exceedance of the plant's safe shutdown earthquake (SSE) level of 0.12g.
- I asked if scratch plate results are needed and analysis required for plant restart. Region II did not know but said they would need assurance that the plant did not exceed design basis levels. Region working with NRR. NRR lead for analysis.
- Note that Congressman Eric Cantor and Governor McDonnell will visits NAPS today.

From: Franovich, Mike
Sent: Wednesday, August 24, 2011 6:19 AM
To: Ostendorff, William
Cc: Nieh, Ho; Kock, Andrea; Sexton, Kimberly
Subject: RESEND: Summary of Commissioner Assistants Briefing on East Coast Earthquake

B/G

4:15 pm call led by Scott Morris with Vic McCree, Bill Dean, and Cindy Peterson providing specifics:

- A 5.9 magnitude earthquake occurred at approximately 1:50 PM on 8/23, epicenter in Mineral, Virginia (within 15 miles of North Anna).
- North Anna Power Station (NAPS) units tripped from 100 percent power due to a loss of offsite power (LOOP).
- The on-site emergency diesel generators (EDGs) initially started and powered the station emergency electrical buses.
- Unit 2H EDG experienced a leak on a engine jacket water flange connection. Operators manually secured the EDG to effect repairs.
- The station blackout diesel generator was started and aligned to power the 2H 4kV emergency bus. The SBO diesel generator powered 2H bus approximately 45 minutes after securing the 2H EDG. (Note: You did not see the SBO D/G during your visit to NAPS on January 7, 2011. The SBO diesel is a large caterpillar engine with its own support systems. It can power a 4kV bus on either NAPS unit. It takes less than an hour for operators to perform the electrical breaker alignments to connect the SBO diesel).
- At 2:03 p.m. station management declared an ALERT based on a conservative call using criteria of their Emergency Action Levels (EALs). An EAL criterion on potential for substantial plant degradation.
- At 2:22 p.m. NRC entered the Monitoring Mode following the declaration of an ALERT at the North Anna.
- The reactors are stable in hot standby condition.
- Spent fuel pool cooling was lost for approximately 90 minutes. No reported issue with spent fuel. (recall that SFP cooling systems at many plants are not normally automatically powered by EDGs following a LOOP; requires operator action to align power.)
- The LOOP appears to be a fault in a 500 kV line/transformer (#2 500 kV transformer).
- Some damage was noted to reserve electrical transformers. Bushings on the reserve station service transformers (RSSTs) were damaged and repairs are in progress to RSST 'C' as a priority repair. RSST 'C' can power the 1H and 2H 4kV electrical buses from offsite power and some non-vital loads.
- No other reported damage to the station.
- Plant security compensatory measures taken due to the LOOP.
- NERC reported to NRC that the grid was in good condition and that there were adequate spinning electrical reserves to sustain the grid.
- For your info, I included an electrical overview of the NAPS power system (circa 2006) at the bottom of this e-mail. Read this print from high voltage to low voltage – top to bottom hierarchy (grid/switchoyard/plant buses).

Other reactor and fuel cycle facility sites affected:

- Additionally, a number of plants declared a Notice of Unusual Event (NOUE) due to seismic activity at the site. Peach Bottom, Three Mile Island, Susquehanna and Limerick in Pennsylvania; Salem, Hope Creek and Oyster Creek in New Jersey, Calvert Cliffs in Maryland, Surry in Virginia, Shearon Harris in North Carolina and D.C. Cook and Palisades in Michigan.
- All 12 nuclear sites maintained their present power level without interruption.
- Region I contacted 40 CAT I and II materials licensees. 90 percent provided feedback of no reported problems.
- Coordination with FEMA and states emergency officials.
- Beaver Valley and Indian Point did enter their abnormal operating procedures.
- NFS and B&W Lynchburg did detect/sense the earthquake but no reported problems.

NAPS Electrical Distribution: