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Thompson, John

From: Bernardo, Robert *NYK*
 Sent: Tuesday, September 13, 2011 7:24 AM
 To: Thorp, John
 Cc: Thompson, John
 Subject: North Anna AIT and Surry Seismic instruments

John,

I assume you've seen the clearinghouse information on Surry seismic instruments. Region has a lot of questions for the licensee, such as: Will routine surveillance tests find this condition? Un-centered because of the earthquake, or some other cause? How long? What is the periodicity of the surveillance testing? When was the last surveillance done? Region didn't have any of this information on Monday, expect to hear more over the next couple of days.

FYI, brief (or at least as brief as I can be ☺) status of the AIT at North Anna:

~~Information Security Reminder: These notes contain preliminary information in the interest of timely internal communication of operating experience. The notes are pre-decisional and may contain sensitive information. They are not intended for distribution outside the agency.~~

Team was on site week of 8/30, worked from home offices week of 9/6, and is back on site for this week (9/12).

Status:

- No significant damage to safety related systems (including class I structures) has been identified through site walk-downs nor has equipment degradation been detected through plant performance and surveillance testing following the earthquake.
- AIT continues to be the correct level of response.
- Potential Issues, which are unresolved at this time and may be documented as URIs:
 - 2H EDG Cooling Water Jacket Leak – Had to use SBO EDG when 2H EDG was secured. Licensee (and AIT) is leaning toward this being an installation issue (gasket was replaced in 2009).
 - 1J EDG Frequency Oscillations (0.5 hertz +/-, right at TS limit, EDG was operating fine, nothing to indicate that it would have failed – licensee still owes information)
 - Seismic Instrumentation Power Supplies and locations. Seismic instruments lost power briefly during the event and didn't alarm. Instrumentation is used to determine EAL level, as well as operability. Know that at least Surry has similar set up (see potential generic issues).
 - One or more seismic instruments in containment had polarity reversed. No other information.
 - Safety related instrumentation qualification. AIT has list of a variety of instrumentation (Level, DPs, etc.,) that had various anomalies (oscillations, erratic, etc) during the event. Some may be attributed to actual system response. Question is, if the instrumentation is seismically qualified, why are there erratic readings?
 - The "A" AFW pump terry turbine Lube Oil level alarm switch is powered from a non-vital source. Therefore, operators received the alarm when the site lost power. Operators didn't understand why they had the alarm. Checked the oil, verified level was OK, and started turbine without issue. This is looking like an operator knowledge/procedure issue, maybe design issue?
 - Missing orifice plates from the 1J and 2J EDG Engine driven coolant pumps. Discovered when working on a mechanical seal leak on one of the pumps. Operability determination has been completed.
- Potential Generic Issues:
 - Seismic instrumentation power supplies. AIT knows that at least Surry has the same issue

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- Seismic monitor locations are on structures, not on the “free field” (OBE/SSE based on “Free field” acceleration levels.”
- No seismic monitors on ISFSI pads.
- On September 8, Dominion representatives briefed the NRC staff on Overview of the 8/23 Earthquake Response and Restart Readiness Demonstration Plan. The slides are available in ADAMS (ML11252A006). Dominion reported that:
 - OBE and DBE criteria were exceeded; However, Cumulative Absolute Velocity (CAV, a concept used by the Electric Power Research Institute (EPRI) to address OBE Exceedance in EPRI NP-5930) calculations indicate that significant damage would not be expected.
 - Extensive actions are underway to inspect, evaluate, test and repair, if necessary, SSCs to ensure they are capable of performing their required design basis functions. Results are confirming the CAV expectations.
 - To date, no safety related SSCs have been identified that require repair.
 - Long term actions are planned to improved plant seismic monitoring capability and to re-evaluate plant OBE and DBE criteria in conjunction with the resolution to Generic Issue (GI)-199.
- RCA for the actual cause of the trip is in progress. Licensee still believes negative flux trip came in and caused trip BEFORE LOOP. Licensee evaluating a number of different scenarios which could have caused this (in both plants).
- HQ staff (NRR/DE/EMCB) has lead on Action plan/Communication plan. Still being drafted.
- Team believes they will complete all charter items by 9/16, and plan to hold exit meeting with the licensee on Friday, 9/16.

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