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**Bozin, Sunny**

**From:** Frazier, Alan - EDU  
**Sent:** Wednesday, August 31, 2011 5:24 PM  
**To:** Batkin, Joshua; Sharkey, Jeffrey; Sosa, Belkys; Bubar, Patrice; Nieh, Ho  
**Cc:** Bradford, Anna; Astwood, Heather; Baggett, Steven; Tadesse, Rebecca; Kock, Andrea; Brock, Kathryn; Bowman, Gregory; Sanfilippo, Nathan; McHale, John; Merzke, Daniel  
**Subject:** North Anna ISFSI  
**Attachments:** ISFSI CRs photos after event.pdf

**Note: The licensee has not made the attached pictures publicly available.**

Commissioner's Assistants,

In response to Commission office questions about the impact of last week's earthquake on the North Anna spent fuel casks, North Anna uses the vertical TN-32 metal casks under their 10 CFR Part 72 site specific license as well as the TN-NUHOMS concrete storage modules (horizontal) under a general license. The TN-32 has a bolted closure lid with a pressure monitoring/alarm system, and stands freely on the ISFSI concrete pad. The TN-NUHOMS canister is welded-sealed and rests on horizontal rails inside a rectangle concrete storage module.

The North Anna ISFSI appeared to suffer minor damage (spalling of concrete modules), and the freestanding vertical TN-32 casks slid a few inches on the concrete pad during the quake. No significant displacement of NUHOMS-HD components was observed. Attached is a description of the licensee's post seismic inspection and pictures of cask movements and spalling of horizontal modules. The licensee found that six cask sets (12 casks) were closer than the 16 foot separation distance specified in the FSAR. The Tech Spec requirement specifying a minimum distance of 16 feet between casks with a heat load greater than 27.1 kW was conservatively established so that the casks do not influence each other thermally. Currently, the two casks with the least separation (15 feet, 3.5 inches) are casks that when loaded in 2000 and 2001, had decay heats of 15.4 kw and 18.0 kw, both well below the 27.1 kw requirement.

Based on information provided by the licensee, the staff agrees there is no immediate safety issue. The casks are designed to be very robust against severe natural phenomena and withstood the earthquake at North Anna. The spent fuel continues to be surrounded by several tons of steel and concrete, and sealed in an inert helium environment. Damage to concrete components appear to be cosmetic, and does not impact structural integrity or radiation shielding capability. Inlet and outlet vents were inspected and no exterior blockage was found. Radiation surveys indicate no changes to cask surface dose rates. Completed thermal performance measurements for all loaded casks found no abnormal temperature differences. The licensee reviewed this event for reportability under 10 CFR 72.75 (significant reduction in effectiveness of any spent fuel storage cask confinement system) and determined that the TN-32 displacement and NUHOMS-HD damage described above was not reportable.

TN-32 vendor Transnuclear was contacted and provided with all available pictures, data, and inspection results. Transnuclear requested that the licensee perform a more detailed inspection and evaluation of the current condition.

Item 10 of the AIT charter requires the AIT to "Assess the extent of any impact or damage to the Independent Spent Fuel Storage Installation from the seismic event." A team of staff experts has been put together to assist the AIT and follow-up on near and long-term actions. Results of the AIT ISFSI walk down will be announced after the AIT has completed its review through normal channels. Based on the results of the AIT and the licensee's assessment, the staff will evaluate whether there are any safety issues that would adversely impact continued operation of the ISFSI.

Please let me know if you have any questions.

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