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**Rahn, David**

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**From:** Rahn, David *INRR*  
**Sent:** Wednesday, September 14, 2011 5:41 PM  
**To:** Wilson, George; Dittman, Bernard  
**Cc:** Stattel, Richard; Alvarado, Rosssnyev; Chung, Pong  
**Subject:** Draft NRR/DE/EICB High Priority Questions Potentially Affecting North Anna Re-start Plans.docx  
**Attachments:** NRR\_DE\_EICB High Priority Questions Potentially Affecting North Anna Re-start Plans.docx

Hi George and Bernie:

Meena requested that we first submit to her any questions considered to be "high priority", which was defined as those questions that could potentially affect what the licensee should be sending to the NRC staff in its plans for re-start of the units.

Accordingly, we have drafted the attached list of 3 questions pertaining to our scope of review. This morning we had a teleconference with Shakur Walker to identify what activities the AIT is already performing to facilitate the identification of the cause of the plant trip, and current condition of the plant. Based on this discussion, we were able to eliminate our questions pertaining to determination of the root cause of the negative reactivity rate insertion, and concentrate on follow-up actions regarding any conclusions reached with regard to the spurious actuations and unexpected responses of equipment arising from the review of the plant sequence of events recorder and post trip review logs. The AIT will confirm that the licensee has identified all unusual or unexpected behavior, and our question was formulated on the basis that such conclusions may determine that remedial actions may be needed.

Could you please review the three questions attached and provide me with your comments before I forward them to Meena? My understanding is that Meena and Gloria Kulesa plan to present such "high priority" questions to the licensee before they submit their proposed restart plan. They were notified by Dominion that this restart plan would be ready for submittal to us for our review by this Friday.

Thanks,

Dave

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## **NRR/DE/EICB Questions Regarding Licensee Response to August 23, 2011 Earthquake Affecting the North Anna Nuclear Power Station**

### High Priority Questions (potentially affecting Licensee's Restart Plans)

1. The NRR staff understands that Dominion has been examining all unusual spurious changes of state of I&C and Electrical equipment which impacted the Sequence of Events recorders and other post trip review logs from the August 23<sup>rd</sup> event, and that the NRC staff AIT members are confirming the licensee's actions in thoroughly investigating the root causes of unexpected equipment performance in this area. The NRR headquarters I&C staff requests the licensee to please confirm that any immediate follow-up actions identified that are resulting from this effort (e.g., required equipment replacements, enhancements in equipment mounting configurations, etc.) regarding such unexpected I&C equipment spurious actuation will take place before restart of the units.
  
2. The licensee's presentation to the NRC staff on September 8, 2011 identified that "comprehensive surveillance testing to validate SSC operability/performance" (448 surveillance tests) will be performed. The NRC headquarters I&C staff would like to understand the licensee's basis for selection of the particular I&C-related surveillance tests that are to be performed and whether the licensee has identified any additional acceptance criteria for such testing that may require additional field confirmations or additional test steps to be performed during such surveillance testing. For example, some RTS and ESF periodic testing is performed without including the local transmitter in the loop, and some locally-mounted instrumentation devices have flexible conduit connections. Should these connections be subjected to seismic acceleration in key natural frequencies of the flexible section that are in excess of design basis conditions, the additional stress put on the instrument terminals could weaken the electrical connections at the terminal strips of the devices, which could result in momentary disruption of the signal, but not permanent disruption that would manifest itself under the static conditions normally present during a periodic surveillance test. Please confirm that such possibilities were considered when the instructions for the performance of such surveillance testing were developed.
  
3. The NRC headquarters I&C staff requests the licensee to confirm that the plans for start-up testing of each unit include confirmation of proper operation of non-safety, but important to safety control systems, such as would be performed as elements of the pre-operational and power ascension testing described within Appendix A to Revision 3 of Regulatory Guide 1.68 to verify proper operability of the normal (non-safety related) plant control systems (e.g., feedwater control, rod control, pressurizer level and pressure controls, secondary system steam pressure control system, main turbine and feedwater pump turbine control systems, in-core instrumentation, plant annunciator and process computer systems, seismic instrumentation system, plant instrumentation grounding

system, etc.). Which non-safety but important-to-safety plant systems were identified by the licensee as critical to the safe operation of the plant, and what testing has been selected to confirm proper operability? Also, what sequence of testing and administrative controls will be utilized during the planned power ascension during restart to ensure that such systems are properly operating before increasing to the next power level?