

From: Khanna, Meena MKR
To: McCoy, Gerald
Subject: FW: review guidance - north anna
Date: Monday, September 19, 2011 10:11:00 PM
Importance: High

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Here's the latest guidance....let me know what your final thoughts are pls and joe glitter will hopefully be sending it out tomorrow..thanks!

From: Khanna, Meena
Sent: Monday, September 19, 2011 9:54 PM
To: Karwoski, Kenneth; Manoly, Kamal
Subject: review guidance - north anna
Importance: High

Ken and Kamal, here is our proposed guidance to the BCs and technical staff with regards to the review of VEPCO's Sept. 17, 2011 earthquake response and restart readiness submittal for North Anna. Pls let me know if this looks ok...then I will ask Joe to send out. thanks.

BCs and Technical Staff,

First of all, I would like to mention that DORL has developed a team to specifically address the North Anna restart review activities. **The members of the team include: Meena Khanna, Ken Karwoski, Bob Martin and Patrick Boyle.** Pls. include these folks on any correspondence regarding this initiative. Note that this review is considered a **high priority** review for the Office and we will need to identify, as appropriate, any work that will not be completed due to the immediate resources needed on this activity. **The TAC Nos. for this initiative include: ME7050 and ME7051.**

I would like to take this opportunity to thank you for your commitment and dedication in supporting the North Anna restart initiative. We greatly appreciate the efforts that you have taken in developing questions prior to VEPCO's submittal. Pls. note that since the team was made aware last week that VEPCO intended to submit its plan this past Saturday, we decided to only issue the questions relating to fuel and reactor systems, to support the fuels audit that began this week. Having said that, we would like each one of you to please review VEPCO's document and use the acceptance criteria below (which was assented by OGC) to determine which questions that were originally developed as well as any additional questions you would like to submit for final issuance to the licensee.

In order to conduct a consistent review across the Office, the team has established the following review process, as outlined below:

1. All technical branches are requested to provide a response to the team. If a branch has determined that it will not have any review scope of this initiative, then the BC is requested to send an email to the team indicating so.
2. All technical branches to finalize list of questions, by technical area, using the guidance provided above as well as the acceptance criteria below. BCs are to concur on the RAIs prior to submitting to the team members. **Due date for questions is September 27;** however, as questions are finalized, pls send them to the team.
3. Pls. identify your questions, if possible, within the three following categories:

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- a. Inspection/Followup Walkdown activities for Region II to consider for the Regional Restart Inspection.
 - b. Short term – questions regarding walkdowns, inspections, and evaluations prior to plant restart
 - c. Long term – questions regarding inspections and evaluations post restart
4. Ken Karwoski and Kamal Manoly will review the questions to ensure that they are in accordance with the acceptance criteria, below, and will discuss with technical staff and BCs, as appropriate.
 5. Gerry McCoy (Region II) will also be reviewing the questions to ensure that they have not already been addressed via the Augmented Inspection Team initiative.
 6. We will develop guidance/template for the SE input and provide that to you in the near future. **NRR's goal is for the team to receive technical SE input from the staff by October 20, 2011.**
 7. In addition, pls communicate to the team and Gerry McCoy any identified areas whereby HQ expertise is needed for audits (e.g., fuels audit)

Acceptance Criteria for Staff Review of VEPCO's Submittal - North Anna Earthquake Response and Restart Readiness Determination Plan

North Anna may use a variety of approaches for ensuring that no functional damage occurred as a result of the earthquake, for example, the licensee may analyze and evaluate the actual earthquake to show that SSCs were not adversely affected. In lieu of analyses/evaluations or in combination with them, the licensee may inspect and/or test various SSCs to demonstrate that there was no functional damage.

The licensee's submittal should be reviewed to confirm that the licensee's analyses, evaluations, inspections, or tests, as appropriate, are adequate for demonstrating that no functional damage resulted from the earthquake (Part 100, Appendix A).

Confirm the adequacy of the scope of the licensee's inspections, tests and analyses which demonstrate that no functional damage resulted from the earthquake to systems, subsystems, trains, components and devices (systems, structures, or components [SSCs]) for the current licensing basis (1) that are required to be operable by TSs, (2) that perform required support functions to maintain a TS required system operable; and (3) that are risk significant or safety related. Refer to NRC Inspection Manual Part 9900, "Operability Determinations and Functionality Assessments for Resolution of Degraded or NonConforming Conditions Adverse to Quality or Safety" for more detailed guidance for determinations of operability and resolution of degraded or nonconforming conditions. The staff will confirm the adequacy of the licensee's plan for NRC approval, detailing the methods used to search for non-conforming conditions, and the resulting evaluation method if non-conforming conditions are found. The staff will also confirm that the licensee's plan includes a determination of an adequate search.

Note: While the licensee's IPEEE reference level earthquake was anchored at 0.3g, their IPEEE submittal identified a number (~50) of components whose "High Confidence of Low Probability of Failure (HCLPF)" was above the DBE (SSE) but lower than the 0.3g in the reference level. These SSCs may warrant increased attention and are identified in Enclosure 1 in the licensee's recent Sept. 17, 2011 submittal.

Guidelines and Reference Documents to be Used for Staff Review:

10 CFR Part 100, Appendix A, Seismic and Geologic Siting for Nuclear Power Plants

RG 1.167, "Restart of a Nuclear Power Plant Shut Down By a Seismic Event" (attached)

EPRI NP-6695, "Guidelines for Nuclear Power Plant Response to an Earthquake"

IAEA Safety Report No. 66, "Earthquake Preparedness and Response for Nuclear Power Plants" (attached)

Overall Review Approach:

The staff's assessment will utilize the guidance provided in NRC's Regulatory Guide (RG) 1.167, which endorses the EPRI's guidelines. In addition, the staff may also utilize the information provided in IAEA Safety Report Series No. 66, "Earthquake Preparedness and Response for Nuclear Power Plants," to determine the adequacy of the licensee's restart determinations. It should be noted that the IAEA Safety Report acknowledges the prospect that hidden damage (especially after an SSE) is a real possibility and its effects should be evaluated with analytical work. Since the August 23, 2011 earthquake magnitude exceeded the plant's SSE, the staff will review the licensee's evaluation for restart to ensure that the plant structures, systems, and components will remain operable for seismic response observed during the earthquake with an adequate margin of safety.

We will hold a meeting to address this plan with the BCs and technical staff early this week. In addition, a Communications Plan and Action Plan are being finalized and will be shared with you in the near future. If you have any questions, pls. contact Meena Khanna of my staff at 415-2150.

Thanks again for all of your support of this initiative.