

SummerRAIsPEm Resource

From: Gleaves, Bill
Sent: Friday, May 06, 2016 2:13 PM
To: SummerRAIsPEm Resource
Subject: FW: Discussion Topic for Thursday Standing Public Meeting - regarding Summer Unit 2/3, EAL Scheme Change
Attachments: VC Summer_Units 2 and 3_EAL Scheme Change_DRAFT RAIs_05-2016.docx

From: Williams, Shawn
Sent: Wednesday, May 04, 2016 9:06 AM
To: BOUKNIGHT, JUSTIN R
Cc: Gleaves, Bill; Patel, Chandu; RICE, APRIL R
Subject: Discussion Topic for Thursday Standing Public Meeting - regarding Summer Unit 2/3, EAL Scheme Change

Justin,
Attached is the full set of RAIs. I understand Chandu is taking the lead to coordinate the call.

In addition, below is important information provided by NSIR regarding these RAIs:

Enclosed are the proposed RAIs based on NSIR/DPR's initial review of the South Carolina Electric & Gas Company (SCE&G, the licensee) submittal dated December 1, 2015, requesting approval for an emergency action level (EAL) scheme change for the Virgil C. Summer Nuclear Station (VCSNS), Units 2 and 3. My understanding is that the COL for VC Summer 2&3 has a license condition, which states that licensee will develop an EAL scheme in accordance with NEI 07-01 "with no deviations." As proposed, the licensee is looking at a hybrid version of NEI 07-01, which includes major deviations from NEI 07-01 and also incorporates elements from NEI 99-01 (Revision 6) for non-passive reactor designs. As such, NSIR/DPR's major concern and need in continuing our technical review is that the licensee provide specific justification against the NRC-endorsed NEI 07-01 methodology for the for the proposed changes.

It will be essential that licensee representatives involved in the actual development of the EAL scheme be on the conference call with licensee to discuss the enclosed draft RAIs to obtain a clear understanding of the NSIR/DPR technical reviewer's need to complete this review. Also, we would strongly recommend to the licensee that a conference call(s) be held prior to the formal submittal of RAI responses to ensure that proposed response adequately addresses the NRC reviewer's need and thus avoid the potential for additional RAIs.

Shawn

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REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

EMERGENCY ACTION LEVEL SCHEME CHANGE

VIRGIL C. SUMMER NUCLEAR STATION, UNITS 2 AND 3

LICENSE NO'S NPF-93 AND NPF-94

By letter dated December 1, 2015, South Carolina Electric & Gas Company (SCE&G, the licensee) requested approval for an emergency action level (EAL) scheme change for the Virgil C. Summer Nuclear Station (VCSNS), Units 2 and 3 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML15335A448). VCSNS proposes to revise their current EAL scheme for Units 2 and 3 from one based on Nuclear Energy Institute (NEI) document NEI 07-01, "Methodology for Development of Emergency Action Levels for Passive Reactors," Revision 0 (ADAMS Accession Number ML092030210), to an alternative scheme proposed by VCSNS for staff review and approval.

The requests for additional information (RAIs) listed below are needed to support NRC staff's continued technical review of the proposed EAL scheme change.

RAI-VCSNS-01

For Section 5.1 (Definitions), the definition of SAFETY SYSTEM was inappropriately carried over from NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 6 (ADAMS Accession No. ML12326A805). This document is not applicable to VCSNS as NEI 99-01 is for non-passive reactor designs. In NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," dated September 2004, Section 22, "Regulatory Treatment of Non-Safety Systems," provides the staff's position on safety and non-safety systems as it relates to the AP1000 design. VCSNS may not be able to use the SAFETY SYSTEM definition provided in NEI 99-01 as it does not encompass these important non-safety systems. Please develop another definition that: (1) will not create confusion by having multiple definitions of SAFETY SYSTEM in licensee EAL schemes; (2) will encompass the safety systems applicable to VCSNS, and (3) will encompass the important non-safety systems applicable to VCSNS as discussed in NUREG-1793. Once this definition has been developed, please ensure that the applicable EALs that use this defined term are revised accordingly.

RAI-VCSNS-02

RIS 2003-18, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels," and Supplements 1 and 2, recommend that licensees provide appropriate justification for submittals that are different than the NRC published or endorsed guidance used to develop the proposed EAL scheme. While this RIS was speaking to non-passive reactor designs that use NEI 99-01 as an EAL scheme development guidance, this rationale also applies to passive reactor designs (i.e., AP1000, ESBWR). While this is not a regulatory requirement, this additional information is needed for the staff to sufficient information

to support its technical evaluation of the proposed changes to the guidance in NEI 07-01, "Methodology for Development of Emergency Action Levels Advanced Passive Light Water Reactors" (Revision 0), to justify a reasonable assurance finding. It is important that this justification evaluates the differences and deviations between the approved EAL scheme (based on NEI 07-01) for V.C. Summer Nuclear Station (VCSNS), Units 2 and 3, and the proposed EAL scheme. The staff noted that the proposed EAL scheme for VCSNS Units 2 and 3, adopted the NEI 99-01 (Revision 6) EAL scheme guidance; however, NEI 99-01 is not directly applicable to VCSNS Units 2 & 3 due to the reactors' passive design.

Please provide a difference/deviation matrix for the entire proposed EAL Basis Document for VCSNS Units 2 and 3 that clearly evaluates all the differences/deviations between the proposed scheme and the currently approved scheme based on NEI 07-01. In particular, please be aware that an extraordinary amount of effort went into making NEI 07-01 as detailed as possible (i.e., use of specific equipment and alarms/setpoints), as well as determining the appropriate changes applicable to a passive design versus a non-passive design. When evaluating the proposed EAL scheme, please describe why the detailed EALs as approved (based on NEI 07-01) are no longer applicable for the appropriate EAL. The staff has no issue with using NEI 99-01 as a guide; NEI 07-01 is the approved EAL scheme for VCSNS Units 2 & 3, and as such, needs to be used as the source document for evaluation purposes. Many of the non-design related EALs from NEI 99-01 (Revision 6) are appropriate for VCSNS Units 2 and 3, but justification for the proposed EAL scheme (as compared to the approved EAL scheme) needs to be provided in order to reach our reasonable assurance finding.

RAI-VCSNS-03

Please confirm that all setpoints and indications used in the proposed EAL scheme are within the calibrated range(s) of the stated instrumentation and that the resolution of the instrumentation is appropriate for the setpoint/indication. For those EALs that the specific setpoint has not been determined yet, please confirm appropriate actions will be taken to verify that eventual setpoint will fall within the calibrated range of the stated instrument.

RAI-VCSNS-04

For EAL RA2.2, the threshold is based upon a "Hi-Rad" alarm on a list of radiation monitors. Please confirm that this is the actual alarm applicable to this EAL for all the listed radiation monitors, and for the Refueling Bridge Portable Monitor. In addition, please explain why an elevated reading on these radiation monitors would not be applicable in addition to the alarm(s), or revise accordingly.

RAI-VCSNS-05

For EAL RA3.1, the approved EAL specifies instrument RMS-JE-RE009 for the Central Alarm Station (CAS). Please explain why the proposed EAL states that the CAS will be monitored by survey rather than by an installed radiation monitor as previously referenced, or revise accordingly.

RAI-VCSNS-06

NOTE-09, states: "Classification is not required if either train of RNS (normal residual heat removal) can be placed in service for Shutdown Cooling." Please explain: why this note was added; the impact this note has on EAL timing, and the effect this note has on the overall EAL scheme, for each applicable EAL.

RAI-VCSNS-07

For EAL CA1.1, please address the following:

1. Provide further justification for removal of timing note from this EAL, or revise accordingly;
2. Explain why the approved EAL scheme states that 64.5% RCS Hot Leg level is called "Low 4" and the proposed EAL calls this "Low 1;" and
3. The approved EAL also has states a threshold for "pressurizer level at 12% and lowering on RCS-LT-200." Please explain why this was removed, or revise accordingly.

RAI-VCSNS-08

For EAL CA1.2, please explain why the timing was changed from the approved "≥30 minutes" to "≥15 minutes."

RAI-VCSNS-09

For EAL CS1.1, please address the following:

1. Explain why the timing was changed from the approved "≥60 minutes" to "≥30 minutes;" and
2. Explain why the approved EAL cannot be implemented as it is more detailed and specific than the proposed EAL, or revise accordingly.

RAI-VCSNS-10

For EAL CU4.1, please explain why this EAL was added to the scheme, or revise accordingly.

RAI-VCSNS-11

For EALs CU6.1, SA2.1, SS2.1 and HG1.1, please explain why the approved EAL cannot be implemented, or revise accordingly. Specifically, this EAL was apparently carried over from NEI 99-01, Revision 6, which is problematic as it is not entirely applicable to the AP1000 design. VCSNS Units 2 and 3 have digital instrumentation and control systems, and use the AP1000 passive reactor design. As a result, this EAL needs to be unique to VCSNS (Units 2 and 3) and the AP1000 design.

RAI-VCSNS-12

For EALs CU8, CA2 and CA7 (all from the approved EAL scheme), please explain why these were removed from the proposed EAL scheme, or revise accordingly.

RAI-VCSNS-13

For EAL HU3.1, please explain why the threshold for high winds > 145 mph was removed, or revise accordingly.

RAI-VCSNS-14

For EALs HU4.1 and HU4.2, please explain why the following areas from the approved EAL scheme were removed from the proposed EAL scheme, or revise accordingly:

- annex building,
- turbine building, and
- radwaste building.

In addition, if using the EAL from NEI 99-01, Revision 6, please explain why the Appendix R information is not carried over as well, or revise accordingly.

RAI-VCSNS-15

For EAL HS6.1, please explain why the timing was changed from the approved “within 60 minutes” to “within 15 minutes.” In addition, this EAL was apparently carried over from NEI 99-01, Revision 6, which is problematic as it is not entirely applicable to the AP1000 design. VCSNS Units 2 and 3 have digital instrumentation and control systems, and use the AP1000 passive reactor design. As a result, this EAL needs to be unique to VCSNS (Units 2 and 3) and the AP1000 design.