

From: Lamb, John
Sent: Friday, November 20, 2020 8:43 AM
To: Lowery, Ken G.
Subject: For Your Review - DRAFT RAIs for Vogtle GSI-191 LAR (L-2020-LLA-0182)

Importance: High

Ken,

Below are draft requests for additional information (RAIs) regarding the Southern Nuclear Operating Company (SNC) Vogtle GSI-191 LAR. The draft RAIs are being transmitted to facilitate the technical review being conducted by the U.S. Nuclear Regulatory Commission (NRC) staff and to support a conference call, if needed, with SNC in order to clarify the RAIs. The draft RAIs are being sent to you to ensure that they are understandable, the regulatory basis is clear, to ensure there is no proprietary information, and to determine if the information was previously docketed. Additionally, review of the draft RAIs would allow SNC to evaluate and agree upon a schedule to respond to the RAIs. Please let me know if SNC needs a clarifying call. If so, please provide SNC's availability.

Thanks.
John

DRAFT REQUEST FOR ADDITIONAL INFORMATION

By letter dated August 17, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20230A346), Southern Nuclear Operating Company (SNC, the licensee) submitted a license amendment request for the Vogtle Electric Generating Plant (Vogtle), Units 1 and 2. The proposed amendments consist of changes to the License and Technical Specifications (TSs).

The proposed amendments would revise the licensing basis as described in the Vogtle Final Safety Analysis Report (FSAR) to allow the use of a risk-informed approach to address safety issues discussed in Generic Safety Issue (GSI)-191, "Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance." In addition, the proposed amendments would add a new TS 3.6.7, "Containment Sump," and add an Action to address the condition of the containment sump made inoperable due to containment accident generated and transported debris exceeding the analyzed limits.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed your application and determined that additional information is needed to complete its detailed technical review to make an independent assessment regarding the acceptability of the proposed exemptions in terms of regulatory requirements. Below are the requests for additional information (RAIs).

REQUEST FOR ADDITIONAL INFORMATION

RAI #1

Enclosure 2, Section 3.2.7, of the letter dated August 17, 2020, specifies that physical or procedural modifications that affect inputs to the NARWHAL model will be updated periodically. In Section 3.2.5, and in the FSAR markup, the model is excluded specifically as a key element that is described in the

FSAR. The NARWHAL model is an integral part of the analysis and replacement with a different model would be complex. Industry and the NRC expended significant resources to provide assurance that the NARWHAL model provides acceptable results. The review and development of NARWHAL included verification and validation of the software. In addition, the software is controlled under a quality assurance program intended to assure that errors in the model are tracked and corrected as necessary. Explain the reason for the statements excluding the tool or program in Section 3.2.5 and 3.2.7 and discuss whether the use of a different tool or program would constitute a change of method that could require NRC approval prior to its use. The NRC acknowledges that the licensee could perform a limited set of calculations outside of the NARWHAL model to evaluate specific scenarios. However, a full analysis may be difficult to perform without using the software.

RAI #2

The list of FSAR references does not include the Vogtle Technical Report or associated NRC staff evaluation, dated September 30, 2019 (ADAMS Accession No. ML19120A469), that provides most of the technical basis for the FSAR text. Please justify not including these documents as the analysis of record in the FSAR.

RAI #3

Enclosure 2, Page A2-7, of the letter dated August 17, 2020, does not include any reference to fuel design in the "Other GSI-191 Inputs." These parameters may be important when considering design modifications or operability evaluations. Sump Swapover time, Hot-Leg Switchover (HLSO) Time, Alternate Flow Path (AFP) resistance, chemical effects timing, and barrel/baffle configuration may need to be evaluated by modifications and considered in operability evaluations associated with long-term core cooling (LTCC). Please justify the omission of these parameters from consideration for operability and future modifications.

RAI #4

The results of the break selection and transport analyses are not intuitive when compared to the technical report (TR, previous submittal) values. Explain why the breaks in Enclosure 2, table A3-3, of the letter dated August 17, 2020, are larger than those in table 3.b.4-2 in the TR. The small and fine fibrous debris amounts are also greater in the LAR than in the TR. Explain how smaller breaks would not be more than larger breaks if particulate debris amounts are increased and other debris source terms remain unchanged. Describe whether the breaks in TR table 3.b.4-2 still pass all acceptance criteria. Additionally, the transported values of fiber for the limiting breaks that pass all acceptance criteria are much lower in the LAR than in the TR. Table A3-5 has significantly reduced transport of fiber and sodium aluminum silicate to the RHR strainers while other particulate and chemical species are increased when compared to the TR values. Explain how the debris generation and transport values in these tables were calculated, how they relate to the limiting breaks from the TR, and how they relate to the overall analysis of risk. Describe how risk increases when the limiting breaks are larger than those that were previously identified as limiting. Based on the above, please justify the assumptions and calculations for debris generation and transport.

RAI #5

Table B 3.6.7-1 from the Technical Specification (TS) Bases markup contains the prescriptive debris limits for one and two-train operation. This table is only included in the TS bases. Please justify the omission of this information in the analysis record provided in the FSAR.

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