From:	Hon, Andrew
To:	Hess, Thomas A (tahess@tva.gov)
Cc:	Hoffman, Raymond; Barillas, Martha
Subject:	Sequoyah Nuclear Station, Unit 1 & 2 – Request For Additional Information Related to LAR for Emergency Response Plan Staff Augmentation Times (EPIC: L-2017-LLA-0310)
Date:	Friday, February 09, 2018 9:18:13 AM

By a letter dated September 29, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML17272A940), the Tennessee Valley Authority (TVA) submitted changes to the Sequoyah Nuclear Plant (SQN), Units 1 and 2, Emergency Plan for Commission review and prior approval pursuant to Section 50.54(q) of Title 10 of the *Code of Federal Regulations* (10 CFR). The proposed changes would revise the SQN Emergency Plan to change the staffing and increase the staff augmentation times for certain emergency response organization (ERO) positions.

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed below. The proposed questions were emailed in draft form and a clarification call was held on February 7, 2018. Your staff confirmed that these draft questions did not include proprietary or security-related information and agreed to provide a response March 12, 2018 to this request for additional information (RAI).
The NRC staff considers that timely responses to RAIs help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. Please note that if you do not respond to this request by the agreed-upon date or provide an acceptable alternate date, we may deny your application for amendment under the provisions of Title 10 of the *Code of Federal Regulations*, Section 2.108. If circumstances result in the need to revise the agreed upon response date, please contact me at (301) 415-8480 or via e-mail Andrew.Hon@nrc.gov.

Regulatory Basis:

Title 10 of the *Code of Federal Regulations* Section 50.54(q) *Emergency plans*

NRC Regulatory Issue Summary 2016-10 *License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation*

NUREG-0654, Rev.1 *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*

Request for Additional Information

RAI-1

TVA stated that the proposed SQN on-shift staffing will be increased from the current 24 personnel to 25 personnel. It appears that SQN is removing four maintenance personnel from shift and adding 5 firefighters to their on-shift staff. Considering that their current on-shift staffing includes "Fire Brigade per Tec Specs [Technical Specifications]," it is not clear to the staff how on-shift staffing levels were being increased.
Please clarify, in order to meeting the guidance, whether the five fire brigade members on the proposed SQN on-shift staffing are in addition to the current fire brigade staffing of "Fire Brigade per Tec Specs."

RAI-2

The NRC staff could not determine how the Site Emergency Director (SED) duties were transferred from the Shift Manager (SM) during radiological events. The SQN Site 60 Minute Comparison table, provided in Attachment 3 to Enclosure 1 of TVA's September 29, 2017 letter, shows four senior managers for the current emergency plan, while the SQN Site 30 Minute Comparison table, also provided in Attachment 3 to Enclosure 1 of TVA's September 29, 2017 letter, shows three senior managers responding within 60 minutes for the proposed plan. The Site Emergency Organization table provided in Section B.5 of Appendix B of the TVA Radiological Emergency Plan provides that the SM will transfer protective action recommendation (PAR) responsibility to the Central Emergency Control Center (CECC) Director and the remainder of the command and control responsibilities to the Site Emergency Director (SED) at the Technical Support Center (TSC). The SED will retain classification and notification (Federal) responsibilities, and transfer emergency exposure controls and notification (State/local) responsibilities to the CECC Director.

a) Please explain how SED responsibilities are actually transferred from the SM to the augmenting ERO in a timely and accurate manner.

The proposed Figure B-2, "Minimum Onshift Response Personnel, provided in Attachments 1 and 2 of Enclosure 1 to TVA's September 29, 2017 letter, includes the Plant Assessment Manager (PAM) under the Emergency Operations Facility Director major tasks. It appears the PAM provides the CECC Director with information required to perform the protective action and other ERO command and control functions. As such, all senior management positions on Figure B-2 are required to relieve to Shift Manager of ERO responsibilities. Section B.5.1.1 (page B-164) provides the SED will consult with the CECC Director on significant events and their related impacts. It was not apparent what tasks were performed by the fourth senior management position that was included in the current TVA emergency plan. Additionally, it appears the TSC and OSC are activated and the CECC is staffed at an Alert or greater emergency classification.

b) Please explain who has overall responsibility for command and control of the ERO once activated/staffed.

c) Please provide a justification that supports the removal of one senior manager from the current ERO. The justification should explain what function(s) this individual performed and who will perform those functions in the proposed emergency plan.

d) Please explain if there is any difference in how the licensee defines activation and/or staffing in the proposed plan. For example, the licensees states the TSC and OSC are activated while the CECC is staffed at an Alert or greater emergency classification. If the terms activated and staffed mean the same thing, please provide clarification in the Emergency Plan or consider using one term to prevent potential confusion.

RAI-3

The TVA LAR proposes to extend the current 30-minute Radiation Protection (RP) ERO response times to 60 minutes and would extend the 60-minute RP response times to 90 minutes. Additionally, TVA proposes to remove two RP responders from the proposed 60-minute SQN ERO RP staffing and an additional two RP responders from the 90-minute SQN ERO RP staffing for in plant protective actions and in plant surveys. While TVA does provide that RP procedures, equipment and processes have improved, which could justify the extension of the 30-minute RP ERO response times, the licensee does not provide justification to support the reduction in the number of RP ERO responders.

a) Please provide further justification for the reduction in RP Technicians for the

major tasks of Onsite, In-Plant Surveys, and Protective Actions from 8 RP Technicians to 4 RP Technicians. This explanation should include capabilities that are beyond the improvements in RP procedures, equipment, and processes that are consistent with industry-wide improvements.

b) Please explain what validation, such as an exercise or drill, was performed that demonstrates that the proposed RP Technician staffing will not have an adverse effect to the SQN response to a radiological emergency or revise the proposed RP Technician staffing to align with the guidance provided by U.S. NRC Regulatory Issue Summary 2016-10, "License Amendment Requests to Emergency Organization Staffing and Augmentation."

RAI-4

The TVA LAR proposes to add the Technical Assessment Manager (TAM) and the Technical Assessment Team Leader (TATL) as 60-minute response positions. TVA provides that both the TAM and the TATL would be qualified to perform the Core/Thermal Hydraulics functions.
Please explain how the TAM and TATL can perform their respective functions of the TAM and TATL positions, while performing the Core/Thermal Hydraulics function.

RAI-5

TVA proposes to extend the response times for the Reactor Engineer, Electrical Engineer and Mechanical Engineer positions from 60 minutes to 90 minutes. TVA provides that the TAM and TATL positions will maintain the capability to transfer the Core/Thermal Hydraulics function from the Control Room to the TSC at 60 minutes. However, the NRC staff could not determine how transferring the Core/Thermal Hydraulics function at 60 minutes supported extending the augmentation time of the Reactor Engineer, Electrical Engineer, and the Mechanical Engineer to 90 minutes.

a) Provide justification for extending the response time of the Electrical Engineer, who provides coverage related to electrical or I&C equipment, for an additional 30 minutes. This justification should provide either the unique characteristics of SQN that allow the 30 minute extension, or explain how this function will be performed at 60 minutes.

b) Provide justification for extending the response time of the Mechanical Engineer, who provides coverage related to mechanical equipment, for an additional 30 minutes. This justification should provide either the unique characteristics of SQN that allow the 30 minute extension, or explain how this function will be performed at 60 minutes.

Docket Nos. 50-327 and 50-328
Andy Hon, *PE*
Project Manager (Brunswick Nuclear Plant 1 & 2, Sequoyah Nuclear Plant 1 & 2)
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation
301-415-8480
OWFN O8H19

Mail Stop O8G-9a
andrew.hon@nrc.gov