

NRR-PMDAPEm Resource

From: Hon, Andrew
Sent: Thursday, April 20, 2017 7:33 AM
To: Hess, Thomas A (tahess@tva.gov)
Subject: SEQUOYAH NUCLEAR STATION, UNIT 1 & 2 – REQUEST FOR ADDITIONAL INFORMATION RELATED TO LAR FOR TECHNICAL SPECIFICATION 3.8.1, “AC SOURCES-OPERATING,”

By letter dated May 26, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16148A175), Tennessee Valley Authority (TVA, the licensee) requested a revision to the Operating Licenses for the Sequoyah Nuclear Plant (SQN), Units 1 and 2. The proposed change would correct a non-conservatism in technical specification 3.8.1, “AC Sources-Operating,” acceptance criterion for the diesel generator (DG) steady-state frequency range in Surveillance Requirements 3.8.1.2, 3.8.1.7, 3.8.1.9, 3.8.1.11, 3.8.1.12, 3.8.1.15, and 3.8.1.18.

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 discussed by telephone with your staff on April 19, 2017. Your staff confirmed that these questions did not include proprietary or security-related information and agreed to provide a response by May 12, 2017 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.

Docket Nos. 50-327 and 50-328

RAI-1

On page E8 of 20 of the LAR, the licensee provided an equation to calculate motor speed change as a function of torque. With this equation, the licensee cited a reference to topical report (TR) WCAP-17308, "Treatment of Diesel Generator Technical Specification Frequency and Voltage Tolerances." WCAP-17308 is still under NRC staff review and is not an approved TR. Unapproved guidance may be used as the basis for a proposed change, however, the licensee must supply all information necessary (i.e., plant-specific justification and technical basis) to support the change.

Please clarify the licensee's reliance on the unapproved TR referenced in the LAR for the equation discussed above, and any other portions of the LAR. Additionally, provide the relevant technical basis, as necessary.

RAI-2

On page E12 of 20 of the LAR, the licensee stated that the DG load would increase by 4% as result of the DG operating at upper end of voltage (7260 V) and frequency (60.2 Hz, proposed change) steady-state ranges. The nominal DG loading values were not provided. Also, it appears that the 4% increase was calculated in consideration for the motor loads only.

Please provide the following details on DG loading:

- a) The change in KW and KVA loading of the DG, showing consideration for the effects on both motor loads and non-motor loads (e.g. heaters) to the total DG load values,
- b) Maximum postulated loading (KW and KVA) of the DG, if the major pumps are potentially operating at run-out conditions at the onset of an event,
- c) At nominal voltage and frequency: the maximum postulated, worst-case loading (KW and KVA) for steady-state operation,
- d) At the upper range voltage and frequency: the maximum postulated, worst-case loading (KW and KVA) for steady-state operation, and
- e) The DG loading compared to the DG rating (minimum margin) for the loading conditions in b), c), and d) above.

Hearing Identifier: NRR_PMDA
Email Number: 3455

Mail Envelope Properties (Andrew.Hon@nrc.gov20170420073300)

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Sent Date: 4/20/2017 7:33:00 AM

Received Date: 4/20/2017 7:33:00 AM

From: Hon, Andrew

Created By: Andrew.Hon@nrc.gov

Recipients:

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Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	3655	4/20/2017 7:33:00 AM

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received: