TENNESSEE VALLEY AUTHORITY

1101 Market Street, Chattanooga, Tennessee 37402

CNL-23-006

April 15, 2024

10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Sequoyah Nuclear Plant, Units 1 and 2
Renewed Facility Operating License Nos. DPR-77 and DPR-79
NRC Docket Nos. 50-327 and 50-328

Subject: **Application to Modify Technical Specifications 3.8.1, "AC Sources – Operating," and 3.8.2, "AC Sources – Shutdown," for Sequoyah Nuclear Plant (SQN-TSC-22-03)**

In accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.90, "Application for amendment of license, construction permit, or early site permit," Tennessee Valley Authority (TVA) is submitting a license amendment request for Renewed Facility Operating License Nos. DPR-77 and DPR-79 for Sequoyah Nuclear Plant (SQN), Units 1 and 2, to revise the Technical Specifications (TS) 3.8.1, "AC Sources – Operating," to delete Surveillance Requirement (SR) 3.8.1.8, and to revise TS 3.8.2 "AC Sources – Shutdown," to delete the reference to SR 3.8.1.8.

This proposed license amendment would delete the requirement for verification of the automatic and manual transfer of the power supply to each 6.9 kilovolt (kV) Unit Board from the normal supply to the alternate supply.

The enclosure to this submittal provides a description and assessment of the proposed change, a regulatory evaluation, and a discussion of environmental considerations. Attachment 1 provides a marked-up version of the affected pages of SQN Units 1 and 2 TS 3.8.1 showing the proposed changes. Attachment 2 provides a marked-up version of the SQN Units 1 and 2 TS 3.8.1 Bases. Changes to the existing TS Bases are provided for information only and will be implemented under the Technical Specification Bases Control Program.

TVA requests approval of the proposed license amendment within one year of completion of the Nuclear Regulatory Commission (NRC) acceptance review. Once approved, the amendment shall be implemented within 60 days.

TVA has determined that there are no significant hazards considerations associated with the proposed change and that the TS change qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). In accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosure to the Tennessee State Department of Environment and Conservation.

There are no new regulatory commitments contained in this letter. If you have any questions regarding this submittal, please contact Stuart L. Rymer, Senior Manager, Fleet Licensing, at slrymer@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 15th day of April 2024.

Respectfully,

Kimberly D. Hulvey

Digitally signed by Edmondson, Carla
Date: 2024.04.15 08:45:35 -04'00'

Kimberly D. Hulvey
Director, Nuclear Regulatory Affairs

Enclosure: Description and Assessment of the Proposed Change

cc (Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Sequoyah Nuclear Plant
NRC Project Manager - Sequoyah Nuclear Plant
Director, Division of Radiological Health - Tennessee Department of Environment and Conservation

Enclosure

Description and Assessment of the Proposed Change

Subject: Application to Modify Technical Specifications 3.8.1, “AC Sources – Operating,” and 3.8.2, “AC Sources – Shutdown,” for Sequoyah Nuclear Plant (SQN-TSC-22-03)

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Description and Assessment of the Proposed Change

1.0 SUMMARY DESCRIPTION

In accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.90, "Application for amendment of license, construction permit, or early site permit," Tennessee Valley Authority (TVA) is submitting a license amendment request (LAR) for Renewed Facility Operating License Nos. DPR-77 and DPR-79 for Sequoyah Nuclear Plant (SQN), Units 1 and 2, to revise the Technical Specifications (TS) 3.8.1, "AC Sources – Operating," to delete Surveillance Requirement (SR) 3.8.1.8, and to revise TS 3.8.2 "AC Sources – Shutdown," to delete the reference to SR 3.8.1.8.

This proposed license amendment would delete the requirement for verification of the automatic and manual transfers of the power supply to each 6.9-kilovolt (kV) Unit Board from the normal supply to the alternate supply.

2.0 DETAILED DESCRIPTION

2.1 System Design and Operation

SQN Unit 1 is connected into the 500-kV transmission system and Unit 2 is connected into the 161-kV transmission system. Preferred electric power to the safety-related load groups is supplied by two physically and electrically independent circuits from the Sequoyah 161-kV or 500-kV switchyard through separate transformers to the onsite electrical distribution system. This is depicted in Updated Final Safety Analysis Report (UFSAR) Figure 8.2.1-1.

The intent of General Design Criterion (GDC) 17 has been implemented in the design of SQN's offsite (preferred) power system by providing two physically and functionally independent circuits for energizing safety-related load groups. These two independent circuits consist of various equipment including main bank transformers (MBTs), unit station service transformers (USST), and common station service transformers (CSST).

Under normal configuration, upon a trip of a main generator, the associated main generator circuit breaker (GCB) opens and offsite (preferred) power is supplied from the 161-kV switchyard (for Unit 2) or from the 500-kV switchyard (for Unit 1) through the USSTs to the 6.9-kV Unit Boards. This functional arrangement is depicted in UFSAR Figures 8.1.2-1 and 8.2.1-1. Power is then routed by two independent circuits from the 6.9-kV Unit Boards to the 6.9-kV Shutdown Boards within each unit.

2.2 Background of the Existing Surveillance Requirement

In Reference 1, to support plant operations with the planned installation of new GCBs in the isolated phase bus between the main generator and MBT, along with planned replacements of the USSTs, TVA submitted a LAR in May 2012 to add the surveillance now described in SQN SR 3.8.1.8. This surveillance requirement currently states "verify automatic and manual transfer of the power supply to each 6.9 kV Unit Board from the normal supply to the alternate supply." The normal supply is the USST and the alternate supply is the CSST.

In Reference 2, NRC approved that May 2012 LAR.

TVA then installed and connected the safety system to the new GCBs and replaced the USSTs in 2012 (for Unit 2) and in 2013 (for Unit 1).

Note that the surveillance added to the SQN TS in Reference 2 was originally designated as SR 4.8.1.1.1b. It was renumbered in 2015 as SR 3.8.1.8 during the SQN conversion to the Improved Technical Specifications.

2.3 Reconsideration of the Existing Surveillance Requirement

As a result of the non-cited violation (NCV) described in Reference 3, TVA reviewed the present (post-modification) system design and determined that the power supply transfers verified in SR 3.8.1.8 are not required to maintain connections to offsite power during an accident.

TVA now proposes to remove the surveillance requirement described in SQN SR 3.8.1.8.

2.4 Reasons for the Proposed Change

2.4.1 NCV Evaluation

During a Design Bases Assurance Inspection (DBAI) in 2019, an NRC inspector communicated that the existing SR 3.8.1.8 required an analysis of a bus transfer simulating a GCB failure during an accident. Upon further review, it was determined that there was no supporting analysis for this scenario. This was documented by NRC as a NCV in Reference 3.

During the resolution of this NCV, TVA determined that GCB operation can be credited during accident conditions. The operation of the GCB serves to connect a preferred power circuit through the USSTs. Therefore, SR 3.8.1.8 should be removed, as no automatic or manual transfer from the USSTs to the CSSTs is required during accident conditions.

2.4.2 Offsite Power Configurations

Removal of SR 3.8.1.8 would allow the use of some additional offsite power configurations that comply with GDC 17 (yet cannot be utilized under the existing requirement for operability of an automatic transfer from the USSTs to CSSTs), thus providing greater flexibility for plant operations.

2.5 Description of the Proposed Change

The following changes to SQN, Units 1 and 2, TS 3.8.1 and TS 3.8.2 are proposed.

	SURVEILLANCE	FREQUENCY
SR 3.8.1.8	~~----------NOTES----------~~ ~~1. For the 1 A, 1 B, 1 C, and 1 D Unit Boards, this Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.~~ ~~2. Transfer capability is only required to be met for 6.9 kV Unit Boards that require normal and alternate power supplies.~~ ~~----------~~ ~~Verify automatic and manual transfer of the power supply to each 6.9 kV Unit Board from the normal supply to the alternate supply.~~ Not used.	~~In accordance with the Surveillance Frequency Control Program~~

	SURVEILLANCE	FREQUENCY
SR 3.8.2.1	----------NOTES---------- The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.13 through 3.8.1.17. ---------- For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources – Operating," except ~~SR 3.8.1.8,~~ SR 3.8.1.12, SR 3.8.18, and SR 3.8.1.19, are applicable.	In accordance with applicable SRs

Attachment 1 provides a marked-up version of the affected pages of SQN, Units 1 and 2, TS 3.8.1 and TS 3.8.2 showing the proposed changes. Attachment 2 provides a marked-up version of the SQN Units 1 and 2, TS 3.8.1 and TS 3.8.2 Bases. Changes to the existing TS Bases are provided for information only and will be implemented under the Technical Specification Bases Control Program.

3.0 TECHNICAL EVALUATION

The safety objective for the SQN electrical power system is to furnish adequate electric power to ensure that safety loads function in conformance with design criteria and bases. This evaluation describes how this objective can be accomplished without the surveillance described in SQN SR 3.8.1.8 to verify automatic and manual transfers of the power supply to each 6.9-kV Unit Board from the normal supply to the alternate supply.

3.1 Generator Circuit Breakers (GCBs)

The NRC safety evaluation for the 2012 LAR (Reference 2) contained this conclusion:

- "…the proposed GCBs have the capability of interrupting the system maximum available fault current and qualify as an immediate access offsite power circuit in accordance with GDC 17 and meet the guidance provided in IEEE Std C37.013 and NUREG-0800, Section 8.2, Appendix A."

TVA installed the new GCBs in the isolated phase bus between the generator and MBT and made modifications of the USSTs in 2012 (for Unit 2) and in 2013 (for Unit 1).

The GCBs open on a main generator trip, thus isolating the main generator from the USSTs, which enables these transformers to be energized from the electrical power grid. In this scenario, the MBTs function as step down transformers, supplying electrical power from the grid to the USSTs and the connected electrical loads. The power supply transfers verified in SR 3.8.1.8 are not required in this scenario.

3.2 Compliance with GDC 17 without SR 3.8.1.8

The proposed change to delete SR 3.8.1.8 complies with GDC 17. As previously described in Section 2.1, the offsite electrical power source consists of two physically independent circuits. The availability of these two physically independent circuits does not require the power supply transfers verified in SR 3.8.1.8.

3.3 Requirements for Having a Technical Specification Surveillance

The proposed change to delete SR 3.8.1.8 complies with the requirements of 10 CFR 50.36(c)(3), which describes surveillance requirements as "relating to test, calibration, or inspection" to assure three items. The verifications in SR 3.8.1.8 are not required to meet any of these three items, as outlined in the response for each item given below.

Item 1: to assure that the necessary quality of systems and components is maintained.

Discussion: All Quality Assurance standards described in SQN UFSAR Chapter 8 "Electric Power" will continue to be met if the surveillance described in SR 3.8.1.8 is deleted as proposed.

Item 2: to assure that facility operation will be within safety limits.

Discussion: Continued compliance with GDC 17, as previously discussed without the need for the surveillance described in SR 3.8.1.8, assures that facility operation will be within safety limits.

Item 3: to assure that the limiting conditions for operation will be met.

Discussion: The applicable limiting condition for operation is LCO 3.8.1, which requires two qualified circuits between the offsite transmission network and the onsite Class 1E AC electrical power distribution system to be operable. As previously described in Section 2.1, this is provided by the design of SQN's offsite power system. This LCO will continue to be met if the surveillance described in SR 3.8.1.8 is deleted as proposed.

3.4 Plant-Specific Confirmatory Analysis

An evaluation has been performed to assess the risk impact of removing SR 3.8.1.8 from the Unit 1 and Unit 2 SQN TS.

3.4.1 Methodology

This evaluation utilized the latest One Top Multi-Hazard Model (OTMHM) revision 0.3.

3.4.2 Probabilistic Risk Assessment (PRA) Technical Adequacy

The OTMHM was created by merging the latest peer reviewed Fire, Internal Events (including Internal Flooding) and Seismic PRA models into one fault tree model in order to support quantification of the models all at once. Revision 0.0 of the OTMHM was used in Reference 4, which was reviewed by NRC in Reference 5. The revisions to the OTMHM made subsequent to that revision were to address minor errors identified in the model, and were assessed by TVA to be maintenance updates.

3.4.3 Conclusions of the Plant-Specific Risk Assessment Results

The change in risk for removal of SR 3.8.1.8 was found to have a negligible impact to the OTMHM model. The evaluation supports the removal of the SR from a PRA perspective.

3.5 Conclusion

The safety objective for the SQN electrical power system can be accomplished without the surveillance described in SQN SR 3.8.1.8 to verify automatic and manual transfers of the power supply to each 6.9-kV Unit Board from the normal supply to the alternate supply.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements and Criteria

General Design Criteria

Sequoyah (SQN) Units 1 and 2 were designed to meet the intent of the "Proposed General Design Criteria (GDC) for Nuclear Power Plant Construction Permits published in July 1967. The SQN construction permit was issued in May 1970. The Updated Final Safety Analysis Report (UFSAR), however, addresses the NRC GDC published as Appendix A to 10 CFR 50 in July 1971.

> *Criterion 17 - Electric Power Systems.* An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the

other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.

The onsite electric power sources, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure. Electric power from the transmission network to the onsite Electric Distribution System shall be supplied by two physically independent circuits (not necessarily on separate rights of way) designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. A switchyard common to both circuits is acceptable. Each of these circuits shall be designed to be available in sufficient time following a loss of all onsite alternating current power supplies and the other offsite electric power circuit, to assure that specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded. One of these circuits shall be designed to be available within a few seconds following a LOCA to assure that core cooling, containment integrity, and other vital safety functions are maintained.

Provisions shall be included to minimize the probability of losing electric power from any of the remaining sources as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power sources.

Compliance with GDC 17 is described in Section 3.1.2 of the SQN UFSAR.

NRC Regulatory Guides

The AC power systems at SQN Units 1 and 2 are designed to comply with the following regulatory guidance:

> Regulatory Guide (RG) 1.32, Revision 2, Use of IEEE Std 308-1971, "Criteria for Class IE Electric Systems for Nuclear Power Generating Stations" describes acceptable designs for the availability of offsite power.

Compliance with the regulatory position expressed in RG 1.32 Rev. 2 is described in Section 8.2.1.5 of the SQN UFSAR.

With the implementation of the proposed changes, SQN Units 1 and 2 continue to meet the applicable regulations and requirements, subject to the previously approved exceptions.

4.2 Precedent

The following Westinghouse-designed nuclear power plants do not have an SR for verifying transfer of AC power sources from the normal offsite circuit to an alternate offsite circuit.

- Callaway
- Ginna
- Point Beach 1 and 2
- Prairie Island 1 and 2
- Surry 1 and 2
- Summer
- Vogtle 1 and 2
- Wolf Creek

4.3 No Significant Hazards Consideration

Tennessee Valley Authority (TVA) is requesting an amendment to Renewed Facility Operating License Nos. DPR-77 and DPR-79 for Sequoyah Nuclear Plant, Units 1 and 2. This proposed license amendment would delete the surveillance requirement described in SR 3.8.1.8 for verification of the automatic and manual transfers of the power supply to each 6.9-kilovolt (kV) Unit Board from the normal supply to the alternate supply. This amendment would also delete the reference to SR 3.8.1.8 contained in SR 3.8.1.2.

TVA has evaluated whether or not a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.92, "Issuance of amendment," as discussed below.

1. *Does the proposed amendment involve a significant increase in the probability or consequence of an accident previously evaluated?*

   Response: No

   The offsite circuits and their associated emergency loads are accident-mitigating features. As such, verification of the transfer capability between the normal and alternate power supplies is not associated with any potential accident-initiating mechanism. Therefore, this change does not affect accident or transient initiation. Because the automatic transfer feature is not credited in the design basis, there are no changes in accident consequences.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. *Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?*

   Response: No.

   The proposed changes do not require any new or different accidents to be postulated, since no changes are being made to the plant that would introduce any new accident causal mechanisms. This license amendment request does not impact any plant systems in a manner that would create a new or different kind of accident; nor does it have any impact on any accident mitigating systems that would significantly degrade the plant's response to an accident previously evaluated.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. *Does the proposed amendment involve a significant reduction in a margin of safety?*

   Response: No.

   The margin of safety is related to the ability of the fission product barriers to perform their design functions during and following an accident. The proposed change does not alter the assumptions contained in the safety analyses regarding the availability of the offsite circuits. The proposed change does not adversely impact the

redundancy or availability requirements of offsite power supplies or change the ability of the plant to cope with station blackout events.

The margin of safety associated with the acceptance criteria of any accident is unchanged. The proposed change will have no effect on the availability, operability, or performance of safety-related systems and components.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, TVA concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

4.4 Conclusion

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. TVA Letter to NRC, "Sequoyah Nuclear Plant, Units 1 and 2 – Application to Modify Technical Specifications in Support of Unit Station Service Transformer Modification" (TS-SQN-12-01), dated May 23, 2012 (ML12146A385)

2. NRC Letter to TVA, "Sequoyah Nuclear Plant, Units 1 and 2 -- Issuance of Amendments to Revise the Technical Specifications 3/4.8.1 in Support of Unit Station Service Transformer Modification" (TS-SQN-12-01) (TAC Nos. ME8772 and ME8773), dated October 31, 2012 (ML12286A078)

3. NRC Letter to TVA, "Sequoyah Nuclear Plant – NRC Design Bases Assurance Inspection (Team) Report 05000327/2019010 and 05000328/2019010," dated April 25, 2019 (ML19115A223)

4. TVA Letter to NRC, "License Amendment Request to Revise Technical Specifications to Adopt Risk-Informed Completion Times TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b'" (SQN-TS-20-03), dated August 5, 2021 (ML21217A174)

5. NRC Letter to TVA, "Sequoyah Nuclear Plant, Units 1 and 2 -- Issuance of Amendments Nos. 358 and 352 Regarding Technical Specifications Task Force Traveler TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4B'," (EPID L-2021-LLA-0145), dated August 24, 2022 (ML22210A118)

Attachment 1

Proposed TS Changes (Markups) for SQN Units 1 and 2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.8	~~NOTES~~ ~~1. For the 1A, 1B, 1C, and 1D Unit Boards, this Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.~~ ~~2. Transfer capability is only required to be met for 6.9 kV Unit Boards that require normal and alternate power supplies.~~ ~~Verify automatic and manual transfer of the power supply to each 6.9 kV Unit Board from the normal supply to the alternate supply.~~ Not used.	~~In accordance with the Surveillance Frequency Control Program~~
SR 3.8.1.9	----------NOTE---------- If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition the power factor shall be maintained as close to the limit as practicable. ---------- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 66.5 Hz, b. Within 3 seconds following load rejection, the voltage is ≥ 6800 V and ≤ 7260 V, and c. Within 3 seconds following load rejection, the frequency is ≥ 59.8 Hz and ≤ 60.2 Hz.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	----------NOTE---------- The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9 through SR 3.8.1.11, and SR 3.8.1.13 through SR 3.8.1.17. ----------	
	For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources - Operating," except ~~SR 3.8.1.8,~~ SR 3.8.1.12, SR 3.8.1.18, and SR 3.8.1.19, are applicable.	In accordance with applicable SRs

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.8	~~NOTES~~ ~~1. For the 1A, 1B, 1C, and 1D Unit Boards, this Surveillance shall not normally be performed in MODE 1 or 2. However, this Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.~~ ~~2. Transfer capability is only required to be met for 6.9 kV Unit Boards that require normal and alternate power supplies.~~ ~~Verify automatic and manual transfer of the power supply to each 6.9 kV Unit Board from the normal supply to the alternate supply.~~ Not used.	~~In accordance with the Surveillance Frequency Control Program~~
SR 3.8.1.9	----------NOTE---------- If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition the power factor shall be maintained as close to the limit as practicable. ---------- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 66.5 Hz, b. Within 3 seconds following load rejection, the voltage is ≥ 6800 V and ≤ 7260 V, and c. Within 3 seconds following load rejection, the frequency is ≥ 59.8 Hz and ≤ 60.2 Hz.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

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	For AC sources required to be OPERABLE, the SRs of Specification 3.8.1, "AC Sources - Operating," except ~~SR 3.8.1.8,~~ SR 3.8.1.12, SR 3.8.1.18, and SR 3.8.1.19, are applicable.	In accordance with applicable SRs

Attachment 2

Proposed TS Bases Changes (Markups) for SQN Units 1 and 2

(For Information Only)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.8

~~Transfer of the power supply to each 6.9 kV Unit Board from the normal supply to the alternate supply demonstrates the OPERABILITY of the alternate supply to power the shutdown loads. This SR is modified by two Notes.~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR for the 1A, 1B, 1C, and 1D Unit Boards could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, unit safety systems. This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment. Credit may be taken for unplanned events that satisfy this SR.~~

~~Note 2 specifies that transfer capability is only required to be met for 6.9 kV Unit Boards that require normal and alternate power supplies. When both load groups are being supplied power by the USSTs, only the 6.9 kV Unit Boards associated with one load group are required to have normal and alternate power supplies. Therefore, only one CSST is required to be OPERABLE and available as an alternate power supply. Manual transfers between the normal supply and the alternate supply are also required to meet the SR. However, delayed access to an offsite circuit is not credited in the accident analysis.~~

Not used.

BASES

ACTIONS (continued)

LCO 3.8.10 must be immediately entered. This Note allows Condition A to provide requirements for the loss of the offsite circuit, whether or not a train is de-energized. LCO 3.8.10 would provide the appropriate restrictions for the situation involving a de-energized train.

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. ~~SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE.~~ SR 3.8.1.12 and SR 3.8.1.18 are not required to be met because the ESF actuation signal is not required to be OPERABLE. SR 3.8.1.19 is excepted because starting independence is not required with the DG(s) that is not required to be OPERABLE.

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 6.9 kV shutdown board or disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DGs. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DGs and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR.

REFERENCES None.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.8

~~Transfer of the power supply to each 6.9 kV Unit Board from the normal supply to the alternate supply demonstrates the OPERABILITY of the alternate supply to power the shutdown loads. This SR is modified by two Notes.~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

~~This SR is modified by two Notes. The reason for Note 1 is that, during operation with the reactor critical, performance of this SR for the 2A, 2B, 2C, and 2D Unit Boards could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, unit safety systems. This restriction from normally performing the Surveillance in MODE 1 or 2 is further amplified to allow the Surveillance to be performed for the purpose of reestablishing OPERABILITY (e.g., post work testing following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns) provided an assessment determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed Surveillance, a successful Surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the Surveillance; as well as the operator procedures available to cope with these outcomes. These shall be measured against the avoided risk of a plant shutdown and startup to determine that plant safety is maintained or enhanced when the Surveillance is performed in MODE 1 or 2. Risk insights or deterministic methods may be used for this assessment. Credit may be taken for unplanned events that satisfy this SR.~~

~~Note 2 specifies that transfer capability is only required to be met for 6.9 kV Unit Boards that require normal and alternate power supplies. When both load groups are being supplied power by the USSTs, only the 6.9 kV Unit Boards associated with one load group are required to have normal and alternate power supplies. Therefore, only one CSST is required to be OPERABLE and available as an alternate power supply. Manual transfers between the normal supply and the alternate supply are also required to meet the SR. However, delayed access to an offsite circuit is not credited in the accident analysis.~~

Not used.

BASES

ACTIONS (continued)

LCO 3.8.10 must be immediately entered. This Note allows Condition A to provide requirements for the loss of the offsite circuit, whether or not a train is de-energized. LCO 3.8.10 would provide the appropriate restrictions for the situation involving a de-energized train.

SURVEILLANCE REQUIREMENTS

SR 3.8.2.1

SR 3.8.2.1 requires the SRs from LCO 3.8.1 that are necessary for ensuring the OPERABILITY of the AC sources in other than MODES 1, 2, 3, and 4. ~~SR 3.8.1.8 is not required to be met since only one offsite circuit is required to be OPERABLE.~~ SR 3.8.1.12 and SR 3.8.1.18 are not required to be met because the ESF actuation signal is not required to be OPERABLE. SR 3.8.1.19 is excepted because starting independence is not required with the DG(s) that is not required to be OPERABLE.

This SR is modified by a Note. The reason for the Note is to preclude requiring the OPERABLE DG(s) from being paralleled with the offsite power network or otherwise rendered inoperable during performance of SRs, and to preclude deenergizing a required 6.9 kV shutdown board or disconnecting a required offsite circuit during performance of SRs. With limited AC sources available, a single event could compromise both the required circuit and the DGs. It is the intent that these SRs must still be capable of being met, but actual performance is not required during periods when the DGs and offsite circuit is required to be OPERABLE. Refer to the corresponding Bases for LCO 3.8.1 for a discussion of each SR.

REFERENCES None.