TENNESSEE VALLEY AUTHORITY
1101 Market Street, Chattanooga, Tennessee 37402

CNL-23-062

January 8, 2024

10 CFR 50.90

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

Watts Bar Nuclear Plant, Unit 1
Facility Operating License No. NPF-90
NRC Docket No. 50-390

Subject: **Application to Revise the Watts Bar Nuclear Plant, Unit 1 Technical Specifications Section 3.8.2, "AC Sources-Shutdown," to Remove Reference to the C-S Diesel Generator (WBN-TS-23-018)**

References:
1. TVA letter to NRC, WBN-TS-09-24, "Technical Specification Change Request to Revise Completion Time for Inoperable Diesel Generator(s)," dated November 30, 2009 (ML093640790)
2. NRC letter to TVA, "Watts Bar Nuclear Plant, Unit 1 – Issuance of Amendment Regarding the Completion Time for the Inoperable Emergency Diesel Generator(s) (TAC No. ME2985)," dated July 6, 2010 (ML101390154)
3. TVA letter to NRC, CNL-18-118, "Application to Revise Technical Specifications Regarding DC Electrical Systems TSTF-500, Revision 2, 'DC Electrical Rewrite – Update to TSTF-360' (WBN-TS-18-09)," dated November 29, 2018 (ML18334A389 as supplemented)
4. NRC letter to TVA, "Watts Bar Nuclear Plant, Units 1 and 2 – Issuance of Amendment Nos. 130 and 33 Regarding Adoption of Technical Specifications Task Force Traveler TSTF-500, 'DC Electrical Rewrite – Update to TSTF-360' (EPID L-2018-LLA-0494)," dated December 9, 2019 (ML19276E557)

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 request for an amendment to Facility Operating License No. NPF-90 for the Watts Bar Nuclear Plant (WBN), Unit 1.

In Reference 1, TVA submitted a license amendment request (LAR) to revise WBN Units 1 and 2 Technical Specification (TS) 3.8.1 "AC Sources - Operating." The proposed amendments in Reference 1 included the removal of a Note in TS 3.8.1 allowing substitution of the C-S diesel generator (DG) for any of the required DGs. The Note was to be removed because the C-S DG has not been maintained and, therefore, could not meet the requirements specified in TS 3.8.1 Bases that would allow it to be substituted for any required DG. In Reference 2, the Nuclear Regulatory Commission (NRC) approved the Reference 1 LAR and the Note pertaining to the C-S DG in TS 3.8.1 was removed.

Subsequently, TVA submitted a LAR in Reference 3 to revise the WBN Units 1 and 2 TS requirements related to direct current (DC) electrical systems in accordance with Technical Specification Task Force (TSTF) traveler TSTF-500, Revision 2. The proposed amendment in Reference 3 also included removal of Notes in WBN Unit 1 TS 3.8.4 and TS 3.8.5 that allowed the C-S DG to be substituted for any of the required DGs and their associated DC electrical power subsystem. As discussed in Reference 1 and 3, the WBN C-S DG is not being maintained and, therefore, cannot meet the requirements specified in the TS 3.8.4 and 3.8.5 Bases that would allow it to be substituted for any of the required DGs. In Reference 4, the NRC approved the Reference 3 LAR and the Notes pertaining to the C-S DG in TS 3.8.4 and 3.8.5 were removed. However, TVA did not identify and request to remove a similar Note in WBN Unit 1 TS 3.8.2.

Therefore, the purpose of this LAR is to remove the remaining Note in the WBN Unit 1 TS 3.8.2 pertaining to substitution of the C-S DG for any of the required DGs. A review of the WBN Unit 1 TS indicates that this is the only remaining reference to the C-S DG. The WBN TS Bases for TS 3.8.2 and the Bases for surveillance requirements (SRs) 3.8.4.6 and 3.8.4.7 are also modified to remove discussion regarding the C-S DG. The basis for the proposed change is that the WBN C-S DG is not being maintained as discussed in Reference 1 and Reference 3. Therefore, the C-S DG cannot meet the requirements specified in the TS 3.8.2 and TS 3.8.4 Bases that would allow it to be substituted for any required DG. This proposed amendment is consistent with those previously approved by the NRC in Reference 2 and Reference 4.

The enclosure to this submittal provides a description and technical evaluation of the proposed changes, a regulatory evaluation, and a discussion of environmental considerations. Attachment 1 to the enclosure provides the existing WBN Unit 1 TS page marked up to show the proposed changes. Attachment 2 to the enclosure provides the existing WBN Unit 1 TS Bases pages marked up to show the proposed changes. Changes to the existing TS Bases are provided for information only and will be implemented under the WBN TS Bases Control Program.

TVA has determined that there are no significant hazards considerations associated with the proposed changes and that the TS changes qualify 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.

TVA requests approval of the proposed license amendment within one year of completion of the Nuclear Regulatory Commission (NRC) acceptance review with implementation within 60 days following NRC approval.

There are no new regulatory commitments made in this letter. Please address any questions regarding this submittal to 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 8th day of January 2024.

Respectfully,

Digitally signed by Edmondson, Carla
Date: 2024.01.08 17:35:07 -05'00'

Kimberly D. Hulvey
Director, Nuclear Regulatory Affairs

Enclosure: Description and Assessment of the Proposed Changes

cc (Enclosure):

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Watts Bar Nuclear Plant
NRC Project Manager – Watts Bar Nuclear Plant
Director, Division of Radiological Health – Tennessee State Department of Environment and Conservation

Enclosure

Description and Assessment of the Proposed Changes

Subject: Application to Revise the Watts Bar Nuclear Plant, Unit 1 Technical Specifications Section 3.8.2, “AC Sources-Shutdown,” to Remove Reference to the C-S Diesel Generator (WBN-TS-23-018)

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1. Proposed TS Changes (Mark-Ups) for WBN Unit 1
2. Proposed TS Bases Page Changes (Mark-Ups) for WBN Unit 1 (For Information Only)

## 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 request for an amendment to Facility Operating License No. NPF-90 for the Watts Bar Nuclear Plant (WBN) Unit 1.

In Reference 1, TVA submitted a license amendment request (LAR) to revise WBN Units 1 and 2 Technical Specification (TS) 3.8.1 "AC Sources - Operating." The proposed amendments in Reference 1 included the removal of a Note in TS 3.8.1 allowing substitution of the C-S diesel generator (DG) for any of the required DGs. The Note was to be removed because the C-S DG has not been maintained and, therefore, could not meet the requirements specified in TS 3.8.1 Bases that would allow it to be substituted for any required DG. In Reference 2, the Nuclear Regulatory Commission (NRC) approved the Reference 1 LAR and the Note pertaining to the C-S DG in TS 3.8.1 was removed.

Subsequently, TVA submitted a LAR in Reference 3 to revise the WBN Units 1 and 2 TS requirements related to direct current (DC) electrical systems in accordance with Technical Specification Task Force (TSTF) traveler TSTF-500, Revision 2. The proposed amendment in Reference 3 also included removal of Notes in WBN Unit 1 TS 3.8.4 and TS 3.8.5 that allowed the C-S DG to be substituted for any of the required DGs and their associated DC electrical power subsystem. As discussed in Reference 1 and 3, the WBN C-S DG is not being maintained and, therefore, cannot meet the requirements specified in the TS 3.8.4 and 3.8.5 Bases that would allow it to be substituted for any of the required DGs. In Reference 4, the NRC approved the Reference 3 LAR and the Notes pertaining to the C-S DG in TS 3.8.4 and 3.8.5 were removed. However, TVA did not identify and request to remove a similar Note in WBN Unit 1 TS 3.8.2.

Therefore, the purpose of this LAR is to remove the remaining Note in the WBN Unit 1 TS 3.8.2 pertaining to substitution of the C-S DG for any of the required DGs. A review of the WBN Unit 1 TS indicates that this is the only remaining reference to the C-S DG. The WBN TS Bases for TS 3.8.2 and the Bases for surveillance requirements (SRs) 3.8.4.6 and 3.8.4.7 are also modified to remove discussion regarding the C-S DG. The basis for the proposed change is that the WBN C-S DG is not being maintained as discussed in Reference 1 and Reference 3. Therefore, the C-S DG cannot meet the requirements specified in the TS 3.8.2 and TS 3.8.4 Bases that would allow it to be substituted for any required DG. This proposed amendment is consistent with those previously approved by the NRC in Reference 2 and Reference 4.

## 2.0 DETAILED DESCRIPTION

### 2.1 System Design and Operation

This is an administrative change to remove the Note regarding the C-S DG from WBN Unit 1 TS 3.8.2. However, a detailed description of the system design and operation is provided in Section 2.0 of Reference 1.

## 2.2 Current Technical Specification Requirements

The WBN Unit 1 TS 3.8.2 limiting condition of operation (LCO) currently has a Note that states:

"The C-S DG may be substituted for any of the required DGs."

## 2.3 Reason for the Proposed Change

The proposed amendment removes the Note in TS 3.8.2 allowing use of the C-S DG. The provisions of the Note in TS 3.8.2 that allow the C-S DG to be substituted for any required DG are applicable only if the C-S DG has satisfied all applicable surveillance requirements. Because the C-S DG has not been maintained, it cannot meet the requirements specified in the TS 3.8.2 Bases that would allow it to be substituted for any required DG. The corresponding changes to the WBN Unit 1 TS 3.8.2 Bases and SRs 3.8.4.6 and 3.8.4.7 Bases also remove discussion regarding the C-S DG from the TS Bases.

## 2.4 Description of the Proposed Change

This LAR proposes that the above Note be removed from WBN Unit 1 TS 3.8.2. Corresponding changes to the WBN Unit 1 TS Bases are also proposed to remove discussion regarding the C-S DG.

Attachment 1 to the enclosure provides the existing WBN Unit 1 TS page marked up to show the proposed changes. Attachment 2 to the enclosure provides the existing WBN Unit 1 TS Bases pages marked up to show the proposed changes. Changes to the existing TS Bases are provided for information only and will be implemented under the WBN TS Bases Control Program.

## 3.0 TECHNICAL EVALUATION

The proposed amendment removes the Note in TS 3.8.2 allowing use of the C-S DG, consistent with References 1 through 4. The provisions of the Note that allow the C-S DG to be substituted for any required DG are only applicable if the C-S DG is electrically connected in place of another DG and has satisfied all applicable surveillance requirements. This change represents a reduction in operational flexibility but does not affect the overall functional requirements regarding operation of the DGs.

The history of pertinent WBN Unit 1 TS license amendment requests and NRC approvals is provided in Table 1 below. This proposed amendment is consistent with those previously approved by the NRC in Reference 2 and Reference 4.

| Table 1<br>WBN Unit 1 License Amendment History Pertaining to the C-S DG | | | |
|---|---|---|---|
| **Reference** | **Title** | **TS Action** | **Date** |
| Reference 1<br>ML093640790 | Technical Specification Change Request to Revise Completion Time for Inoperable Diesel Generator(s) | Removed Note in TS 3.8.1 allowing use of the C-S DG | November 30, 2009 |
| Reference 2<br>ML101390154 | Watts Bar Nuclear Plant, Unit 1 – Issuance of Amendment Regarding the Completion Time for the Inoperable Emergency Diesel Generator(s) (TAC No. ME2985) | | July 6, 2010 |
| Reference 3<br>ML18334A389 | Application to Revise Technical Specifications Regarding DC Electrical Systems TSTF-500, Revision 2, 'DC Electrical Rewrite – Update to TSTF-360' (WBN-TS-18-09) | Removed Notes in TS 3.8.4 and 3.8.5 allowing use of the C-S DG | November 29, 2018 |
| Reference 4<br>ML19276E557 | Watts Bar Nuclear Plant, Units 1 and 2 – Issuance of Amendment Nos. 130 and 33 Regarding Adoption of Technical Specifications Task Force Traveler TSTF-500, 'DC Electrical Rewrite – Update to TSTF-360' (EPID L-2018-LLA-0494) | | December 9, 2019 |

Therefore, the proposed change provides an adequate level of safety for operation of the DGs based on the license amendment history pertaining to removal of similar TS Notes regarding the use of the WBN Unit 1 C-S DG.

## 4.0 REGULATORY EVALUATION

### 4.1 Applicable Regulatory Requirements and Criteria

WBN Unit 1 was designed to meet the intent of the "Proposed General Design Criteria for Nuclear Power Plant Construction Permits" published in July 1967. The WBN construction permit was issued in January 1973. The WBN updated Final Safety Analysis Report (UFSAR), however, addresses the General Design Criteria (GDC) published as Appendix A to 10 CFR 50 in July 1971. Conformance with the GDCs is described in Section 3.1.2 of the UFSAR.

Each applicable criterion listed below is followed by a discussion of the design features and procedures that meet the intent of the criteria. Any exception to the 1971 GDC resulting from the earlier commitments is identified in the discussion of the corresponding criterion.

> *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 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 3.1.2.2 of the WBN UFSAR.

*Criterion 18 – Inspection and Testing of Electric Power Systems. Electric power systems important to safety shall be designed to permit appropriate periodic inspection and testing of important areas and features, such as wiring, insulation, connections, and switchboards, to assess the continuity of the systems and the condition of their components. The systems shall be designed with a capability to test periodically (1) the operability and functional performance of the components of the systems, such as onsite power sources, relays, switches, and buses, and (2) the operability of the systems as a whole and, under conditions as close to design as practical, the full operation sequence that brings the systems into operation, including operation of applicable portions of the protection system, and the transfer of power among the nuclear power unit, the offsite power system, and the onsite power system.*

Compliance with GDC 18 is described in Section 3.1.2.2 of the WBN UFSAR.

The onsite standby AC power systems at WBN Unit 1 are also designed to comply with the following applicable regulations and requirements.

- Regulatory Guide (RG) 1.6, Revision 0, “Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems,” describes an acceptable degree of independence between redundant standby (onsite) power sources and between their distribution systems.

- Regulatory Guide (RG) 1.9 (Revision 3), "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used As Class 1E Onsite Electric Power Systems At Nuclear Power Plants" describes the selection, design, qualification, and testing of DGs.

- Institute of Electrical and Electronics Engineers (IEEE) Standard 308-1971, “Criteria for Class 1E Power Systems for Nuclear Generating Stations,” provides criteria for the determination of Class 1E power system design features and the requirements for their testing, surveillance, and documentation.

With the implementation of the proposed change, WBN Unit 1 continues to meet the identified applicable GDC, regulations, and requirements.

### 4.2 Precedent

As noted in Section 1.0 of this enclosure, the NRC approved amendments in Reference 2 and Reference 4 which removed similar Notes from the WBN Unit 1 TS pertaining to the C-S DG from TS 3.8.1, TS 3.8.4, and TS 3.8.5.

### 4.3 No Significant Hazards Considerations Analysis

Tennessee Valley Authority (TVA) is requesting an amendment to Facility Operating License NPF-90 for Watts Bar Nuclear Plant (WBN) Unit 1. The proposed amendment is administrative in nature to remove the Note in Technical Specification (TS) 3.8.2 referencing the C-S Diesel Generator (DG) which is no longer being maintained, consistent with previously approved license amendments for WBN Unit 1 through Nuclear Regulatory Commission (NRC) Letters to TVA (ML101390154 and ML19276E557).

TVA evaluated whether a significant hazards consideration is involved with the proposed amendments by focusing on the three standards set forth in 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 proposed revision to remove the Note from TS 3.8.2 is administrative and is being made to remove discussion regarding the C-S DG from the TS.

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

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

   **Response: No.**

   The proposed revision to remove the Note from TS 3.8.2 is administrative and is being made to remove discussion regarding the C-S DG from the TS.

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

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

   **Response: No.**

   The proposed revision to remove the Note from TS 3.8.2 is administrative and is being made to remove discussion regarding the C-S DG from the TS.

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

   Based on the above, it is concluded 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 Conclusions

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 radioactive 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, WBN-TS-09-24, “Technical Specification Change Request to Revise Completion Time for Inoperable Diesel Generator(s),” dated November 30, 2009 (ML093640790)
2. NRC letter to TVA, “Watts Bar Nuclear Plant, Unit 1 – Issuance of Amendment Regarding the Completion Time for the Inoperable Emergency Diesel Generator(s) (TAC No. ME2985),” dated July 6, 2010 (ML101390154)
3. TVA letter to NRC, CNL-18-118, “Application to Revise Technical Specifications Regarding DC Electrical Systems TSTF-500, Revision 2, ‘DC Electrical Rewrite – Update to TSTF-360’ (WBN-TS-18-09),” dated November 29, 2018 (ML18334A389 as supplemented)
4. NRC letter to TVA, “Watts Bar Nuclear Plant, Units 1 and 2 – Issuance of Amendment Nos. 130 and 33 Regarding Adoption of Technical Specifications Task Force Traveler TSTF-500, ‘DC Electrical Rewrite – Update to TSTF-360’ (EPID L-2018-LLA-0494),” dated December 9, 2019 (ML19276E557)

**Enclosure**

Attachment 1

Proposed TS Changes (Mark-Ups) for WBN Unit 1

## 3.8 ELECTRICAL POWER SYSTEMS

### 3.8.2 AC Sources-Shutdown

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems-Shutdown;" and

b. Two diesel generators (DGs) either Train A or Train B capable of supplying one train of the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.10.

~~NOTE~~
~~The C-S DG may be substituted for any of the required DGs.~~

APPLICABILITY: MODES 5 and 6,
During movement of irradiated fuel assemblies.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|---|
| A. One required offsite circuit inoperable. | ----------NOTE----------<br>Enter applicable Conditions and Required Actions of LCO 3.8.10, with one required train de-energized as a result of Condition A.<br>---------- | |
| | A.1 Declare affected required feature(s) with no offsite power available inoperable. | Immediately |
| | OR | |
| | A.2.1 Suspend CORE ALTERATIONS. | Immediately |
| | AND | (continued) |

**Enclosure**

Attachment 2

Proposed TS Bases Page Changes (Mark-Ups) for WBN Unit 1 (For Information Only)

BASES

LCO (continued)

and 2A-A, or 1B-B and 2B-B), associated with a distribution system train required to be OPERABLE by LCO 3.8.10, ensures a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Together, OPERABILITY of the required offsite circuit and the two DGs ensures the availability of sufficient AC sources to operate the plant in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents).

The qualified offsite circuit must be capable of maintaining acceptable frequency and voltage, and accepting required loads during an accident, while connected to the Engineered Safety Feature (ESF) bus(es). Qualified offsite circuits are those that are described in the FSAR and are part of the licensing basis for the plant.

Offsite power from the Watts Bar Hydro 161 kV switchyard to the onsite Class 1E distribution system is from two independent immediate access circuits. Each of the two circuits are routed from the switchyard through a 161 kV transmission line and 161 to 6.9 kV transformer (common station service transformers) to the onsite Class 1E distribution system. The medium voltage power system starts at the low-side of the common station service transformers.

The DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its respective 6.9 kV shutdown board on detection of bus loss-of-voltage. This sequence must be accomplished within 10 seconds. The DG must be capable of accepting required loads within the assumed loading sequence intervals, and continue to operate until offsite power can be restored to the 6.9 kV shutdown board. These capabilities are required to be met from a variety of initial conditions such as DG in standby with the engine hot and DG in standby at ambient conditions. Additional DG capabilities must be demonstrated to meet required Surveillances, e.g., capability of the DG to revert to standby status on an accident signal while operating in parallel test mode.

Proper sequencing of loads, including tripping of nonessential loads, is a required function for DG OPERABILITY.

It is acceptable for trains to be cross tied during shutdown conditions, allowing a single offsite power circuit to supply all required trains.

~~A Note has been added to indicate that the C-S DG may be substituted for any of the required DGs. However, the C-S DG cannot be declared OPERABLE until it is connected electrically in place of another DG, and it has satisfied applicable Surveillance Requirements.~~

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.8.4.6 (continued)

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

For the DG DC electrical subsystem, this Surveillance may be performed in MODES 1, 2, 3, or 4 in conjunction with LCO 3.8.1.B since the DG DC electrical power subsystem supplies loads only for the inoperable diesel generator and would not otherwise challenge safety systems supplied from vital electrical distribution systems. ~~If available, the C-S DG and its associated DC electrical power subsystem may be substituted in accordance with LCO Note 2.~~ Additionally, credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and

2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

SR 3.8.4.7

A battery service test is a special test of battery capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length should correspond to worst case design duty cycle requirements based on References 8 and 10.

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

This SR is modified by two Notes. Note 1 allows the performance of a modified performance discharge test in lieu of a service test.

The reason for Note 2 is that performing the Surveillance may perturb the vital electrical distribution system and challenge safety systems. However, this Surveillance may be performed in MODES I, 2, 3, or 4 provided that Vital Battery V is substituted in accordance with LCO Note I. For the DG DC electrical subsystem, this surveillance may be performed in MODES I, 2, 3, or 4 in conjunction with LCO 3.8.I.B since the supplied loads are only for the inoperable diesel generator and would not otherwise challenge safety system loads which

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.4.7 (continued)

are supplied from vital electrical distribution systems. ~~If available, the C-S DG and its associated DC electrical power subsystem may be substituted in accordance with LCO Note 2.~~ Additionally, credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and

2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

REFERENCES

1. Title 10, Code of Federal Regulations, Part 50, Appendix A, General Design Criterion 17, “Electric Power System.”

2. Regulatory Guide 1.6, “Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems,” U.S. Nuclear Regulatory Commission, March 10, 1971.

3. IEEE-308-1971, “IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations,” Institute of Electrical and Electronic Engineers.

4. Watts Bar FSAR, Section 8.3.2, “DC Power System.”

5. Regulatory Guide 1.32, “Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants,” February 1977, U.S. Nuclear Regulatory Commission.

6. Watts Bar FSAR, Section 15, “Accident Analysis” and Section 6 “Engineered Safety Features.”

7. Regulatory Guide 1.93, “Availability of Electric Power Sources,” U.S. Nuclear Regulatory Commission, December 1974.

8. TVA Calculation WBN EEB-MS-TI11-0003, “125 VDC Vital Battery and Charger Evaluation.”

9. DELETED

10. TVA Calculation WBN EEB-MS-TI11-0062, "125 V DC Diesel Generator Control Power System Evaluation."