Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-20-004

January 17, 2020

10 CFR 50.90

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

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Nos. NPF-90 and NPF-96
NRC Docket Nos. 50-390 and 50-391

Subject: **Watts Bar Nuclear Plant, Units 1 and 2, License Amendment Request to Revise Technical Specification 3.3.5, "LOP DG Start Instrumentation," (WBN-TS-20-01)**

Reference:

1. NRC Letter to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3; Sequoyah Nuclear Plant, Units 1 and 2; Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 309, 332, 292, 345, 339, 128, and 31 Regarding Unbalanced Voltage Protection (EPID L-2017-LLA-0391)," dated August 27, 2019 (ML18277A110)

2. TVA letter to NRC, CNL-19-097, "Watts Bar Nuclear Plant, Units 1 and 2, Non-Voluntary License Amendment Request to Correct Unbalanced Voltage Relay Instrumentation Values (TS-19-22)," dated October 23, 2019 (ML19296C538)

3. NRC Letter to TVA, "Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 131 and 34 Regarding Correction to Unbalanced Voltage Relay Instrumentation Values (EPID L-2019-LIA-0228)," dated December 10, 2019 (ML19336C519)

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 Nos. NPF-90 and NPF-96 for the Watts Bar Nuclear Plant (WBN) Units 1 and 2, respectively.

In Reference 1, the Nuclear Regulatory Commission (NRC) approved a TVA fleet-wide license amendment request (LAR) to change the Technical Specifications (TS) for the TVA fleet by adding a new level of protection, "Unbalanced Voltage," to the TS for the loss of power (LOP) instrumentation for the Browns Ferry Nuclear Plant (BFN), Sequoyah Nuclear Plant (SQN), and WBN. In Reference 2, TVA submitted a non-voluntary LAR to correct three incorrect instrument

values in WBN Units 1 and 2 TS Table 3.3.5-1, "LOP DG Start Instrumentation," Function 5, "6.9 kV Emergency Bus Undervoltage (Unbalanced Voltage)," which was approved by the NRC in Reference 3. WBN Units 1 and 2 TS Table 3.3.5-1 requires three channels to be operable for Function 5.

Following implementation of References 1 and 3, TVA identified that the WBN Units 1 and 2 TS 3.3.5, Condition C, which applies to Function 5 in TS Table 3.3.5-1, only addresses the required action when one channel per bus is inoperable (i.e., restore the channel to operable status within one hour). Therefore, if more than one channel per bus in Function 5 is inoperable TVA would be required to enter TS 3.0.3, which states:

> "When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:
>
> a. MODE 3 within 7 hours;
>
> b. MODE 4 within 13 hours; and
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> c. MODE 5 within 37 hours".

This was an oversight on TVA's part when developing the WBN Units 1 and 2 TS 3.3.5, Condition C, and has been entered into the TVA corrective action program. Both the BFN and SQN TS, as approved by the NRC in Reference 1, provide actions for when one or more unbalanced voltage relays or channels are inoperable.

Therefore, the enclosed LAR revises WBN Units 1 and 2 TS 3.3.5, Condition C to require, with one or more channels per bus inoperable, restoring the channels to operable status within one hour. This proposed change is consistent with the loss of the degraded voltage and loss of voltage protective features, WBN Units 1 and 2 TS 3.3.5, Condition B, and the Westinghouse Standard TS (NUREG-1431, Revision 4.0).

TVA is requesting NRC review of this LAR on an expedited basis with a requested approval date of April 21, 2020, and a proposed implementation date of April 23, 2020, in order to support the scheduled performance of maintenance on the 6.9 kilovolt (kV) Shutdown Board (SDBD) 1A-A during the WBN Unit 1 Cycle 16 refueling outage, which results in all three channels of Function 5 of TS Table 3.3.5-1 being removed from service. Additional information supporting the basis for this request for an expedited review is provided in the enclosure to this submittal.

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 Units 1 and 2 TS pages marked-up to show the proposed changes. Attachment 2 to the enclosure provides the existing WBN Units 1 and 2 TS pages retyped to show the proposed changes. Attachment 3 to the enclosure provides the existing WBN Units 1 and 2 TS Bases marked-up to show the proposed changes.

Changes to the existing TS Bases are provided for information only and will be implemented under the TS Bases Control Program.

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, "Notice for Public Comment; State Consultation," TVA is sending a copy of this letter and the enclosure to the Tennessee Department of Environment and Conservation.

Please address any questions regarding this request to Kimberly D. Hulvey, Fleet Licensing Manager, at 423-751-3275. There are no new regulatory commitments contained in this submittal.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 17th day of January 2020.

Respectfully,

James T. Polickoski
Director, Nuclear Regulatory Affairs

Enclosure:

Evaluation of Proposed Change

cc: (with Enclosure):

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

Enclosure

Evaluation of the Proposed Change

Subject: **Watts Bar Nuclear Plant, Units 1 and 2, License Amendment Request to Revise Technical Specification 3.3.5, "LOP DG Start Instrumentation," (WBN-TS-20-01)**

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ATTACHMENTS

1. Proposed TS Changes (Mark-Ups) for WBN Units 1 and 2
2. Proposed TS Changes (Final Typed) for WBN Units 1 and 2
3. Proposed TS Bases Page Changes (Mark-Ups) for WBN Units 1 and 2 (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 requesting a license amendment to the Watts Bar Nuclear Plant (WBN) Units 1 and 2 Technical Specifications (TS). This license amendment request (LAR) proposes to revise WBN Units 1 and 2 TS 3.3.5, "LOP DG Start Instrumentation," Condition C, which applies to TS Table 3.3.5-1, "LOP DG Start Instrumentation," Function 5, "6.9 kV Emergency Bus Undervoltage (Unbalanced Voltage)," to address the required action when more than one channel, per bus is inoperable.

TVA is requesting the Nuclear Regulatory Commission (NRC) review of this LAR on an expedited basis to support the scheduled performance of the maintenance on the 6.9 kilovolt (kV) Shutdown Board (SDBD) 1A-A, which results in all three channels of Function 5 of TS Table 3.3.5-1 being removed from service. Additional information supporting the basis for this request for an expedited review is provided in Section 3.2 to this enclosure.

2.0 DETAILED DESCRIPTION

2.1 DESCRIPTION OF THE PROPOSED CHANGE

The proposed LAR revises WBN Units 1 and 2 TS 3.3.5, Condition C, as shown below, to require, with one or more channels per bus inoperable, restoration of the inoperable channels to operable status within one hour.

Current WBN Units 1 and 2 TS 3.3.5, Condition C

CONDITION	REQUIRED ACTION	COMPLETION TIME
----------NOTE---------- Only applicable to Function 5 ---------- C. One or more Functions with one channel per bus inoperable.	C.1 Restore channel to OPERABLE status.	1 hour

Revised WBN Units 1 and 2 TS 3.3.5, Condition C

CONDITION	REQUIRED ACTION	COMPLETION TIME
----------NOTE---------- Only applicable to Function 5 ---------- C. One or more channels per bus inoperable.	C.1 Restore channel(s) to OPERABLE status.	1 hour

Attachment 1 to this enclosure provides the existing WBN Units 1 and 2 TS pages marked-up to show the proposed changes. Attachment 2 to this enclosure provides the existing WBN Units 1 and 2 TS pages retyped to show the proposed changes. Attachment 3 to this enclosure provides the existing WBN Units 1 and 2 TS Bases marked-up to show the proposed changes. Changes to the existing TS Bases are provided for information only and will be implemented under the TS Bases Control Program.

2.2 REASON FOR THE PROPOSED CHANGE

The reason for the proposed change is to address the required action when more than one unbalanced voltage relay channel is inoperable for WBN Units 1 and 2 TS 3.3.5, Condition C.

In Reference 1, the NRC approved a TVA fleet-wide LAR to change the TS for the TVA fleet by adding a new level of protection, “Unbalanced Voltage,” to the TS for the loss of power (LOP) instrumentation for the Browns Ferry Nuclear Plant (BFN), Sequoyah Nuclear Plant (SQN), and WBN. In Reference 2, TVA submitted a non-voluntary LAR to correct three incorrect instrument values in WBN Units 1 and 2 TS Table 3.3.5-1, “LOP DG Start Instrumentation,” Function 5, “6.9 kV Emergency Bus Undervoltage (Unbalanced Voltage),” which was approved by the NRC in Reference 3. WBN Units 1 and 2 TS Table 3.3.5-1, Function 5, requires three unbalanced voltage relay channels to be operable.

Following implementation of References 1 and 3, TVA identified that the WBN Units 1 and 2 TS 3.3.5, Condition C, only addresses the required action when one channel per bus is inoperable (i.e., restore the channel to operable status within one hour). Therefore, if more than one channel per bus in Function 5 is inoperable; TVA would be required to enter TS 3.0.3, which states:

> “When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS

the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

a. MODE 3 within 7 hours;

b. MODE 4 within 13 hours; and

c. MODE 5 within 37 hours".

This was an oversight on TVA's part when developing the WBN Units 1 and 2 TS 3.3.5, Condition C. Both the BFN and SQN TS, as approved by the NRC in Reference 1, provide actions for when one or more unbalanced voltage relays or channels are inoperable.

The proposed change to WBN Units 1 and 2 TS 3.3.5, Condition C from "One or more Functions" to "One or more channels" is administrative in nature. The Note for WBN Units 1 and 2 TS 3.3.5, Condition C states that Condition C is only applicable to Function 5 in WBN Units 1 and 2 TS Table 3.3.5-1. Therefore, WBN Units 1 and 2 TS 3.3.5, Condition C cannot apply to more than one Function as stated in the current TS wording.

3.0 TECHNICAL EVALUATION

3.1 BASIS FOR THE PROPOSED TS CHANGE

As noted in the Background section of WBN Units 1 and 2 TS Bases Section B 3.3.5, "the DGs provide a source of emergency power when offsite power is either unavailable or is insufficiently stable to allow safe unit operation. An LOP start will be generated from the following conditions:

- Three loss of voltage relays are provided on each 6.9 kV SDBD for the purpose of detecting a loss of voltage condition. These relays are combined in a two-out-of-three logic to generate a supply breaker trip signal.
- Three degraded voltage relays are provided on each 6.9 kV SDBD for detecting a sustained undervoltage condition. The relays are combined in a two-out-of-three logic configuration to generate a supply breaker trip signal.
- Three unbalanced voltage relays are provided on each 6.9 kV SDBD for detecting an unbalanced voltage condition, which could signal an open phase condition is present. The relays are combined in a permissive one-out-of-two logic configuration to generate a supply breaker trip. A permissive one-out-of-two trip logic is defined as a trip of the "Alarm" relay and either the "High" or "Low" relay.

The loss of any unbalanced voltage relay results in the unavailability of the protection scheme and a one-hour period to restore function is provided before entering applicable condition(s) and required action(s) for the associated DG made inoperable by LOP DG start instrumentation.

The proposed change to WBN Units 1 and 2 TS 3.3.5, Condition C "One or more channels per bus inoperable" will correct the oversight and provide clearer instruction of the loss in terms of channel (e.g. source to unbalanced voltage relay) rather than a combination of channel and function.

As noted in Section 2.4.3 of Reference 4, which described the changes to WBN Units 1 and 2 TS 3.3.5, "The one-hour completion time for the new Required Action C.1 is consistent with the completion time for Required Action B.1 (i.e., loss of function of the degraded voltage protection scheme) and is based on the low probability of an event requiring an LOP start occurring during this interval." The quoted sentence is also consistent with the Bases for TS 3.3.5, Condition C.

Required Action B.1 of WBN Units 1 and 2 TS 3.3.5 states with one or more Functions with two or more channels per bus inoperable then restore all but one channel to operable status within one hour. Therefore, it was TVA's intent to mirror WBN Units 1 and 2 TS 3.3.5 Condition C with Condition B by requiring similar actions if more than one channel per bus in Function 5 was inoperable [i.e., restore the inoperable channel(s) to operable status within one hour]. If the unbalanced voltage relays cannot be restored to operable status within one hour, then the unit would enter WBN TS 3.3.5, Condition D, which requires the associated DG to be declared inoperable.

The proposed change to WBN Units 1 and 2 TS 3.3.5 Condition C is also consistent with the Westinghouse Standard TS (STS) (NUREG-1431, Revision 4.0), STS 3.3.5.A and B, "LOP DG Start Instrumentation." Required Action B.1 of Condition B to STS 3.3.5.A and B states with one or more Functions with two or more channels per bus inoperable then restore all but one channel to operable status within one hour. As noted in Section 3.4.4 of Reference 1, "In addition, the NRC staff found that the proposed changes are consistent in structure and form to those developed by the staff as Standard Technical Specifications for plants of a similar design. Since the LOP relays in Table 3.3.5 perform similar functions, the NRC staff finds the proposed TS changes to be acceptable."

The current verbiage of WBN Units 1 and 2 TS 3.3.5 Condition C states "One or more Functions with one channel per bus inoperable." This was a misnomer, because Condition C only applies to Function 5. The reference to one or more Functions may have inadvertently been interpreted as applying to one or more channels. As noted above, it was TVA's intent that WBN Units 1 and 2 TS 3.3.5 Condition C be similar to Condition B to address the action when one or more channels per bus for Function 5 is inoperable.

3.2 BASIS FOR THE PROPOSED EXPEDITED REVIEW OF THE LAR

WBN Units 1 and 2 TS 3.3.5 is applicable in:

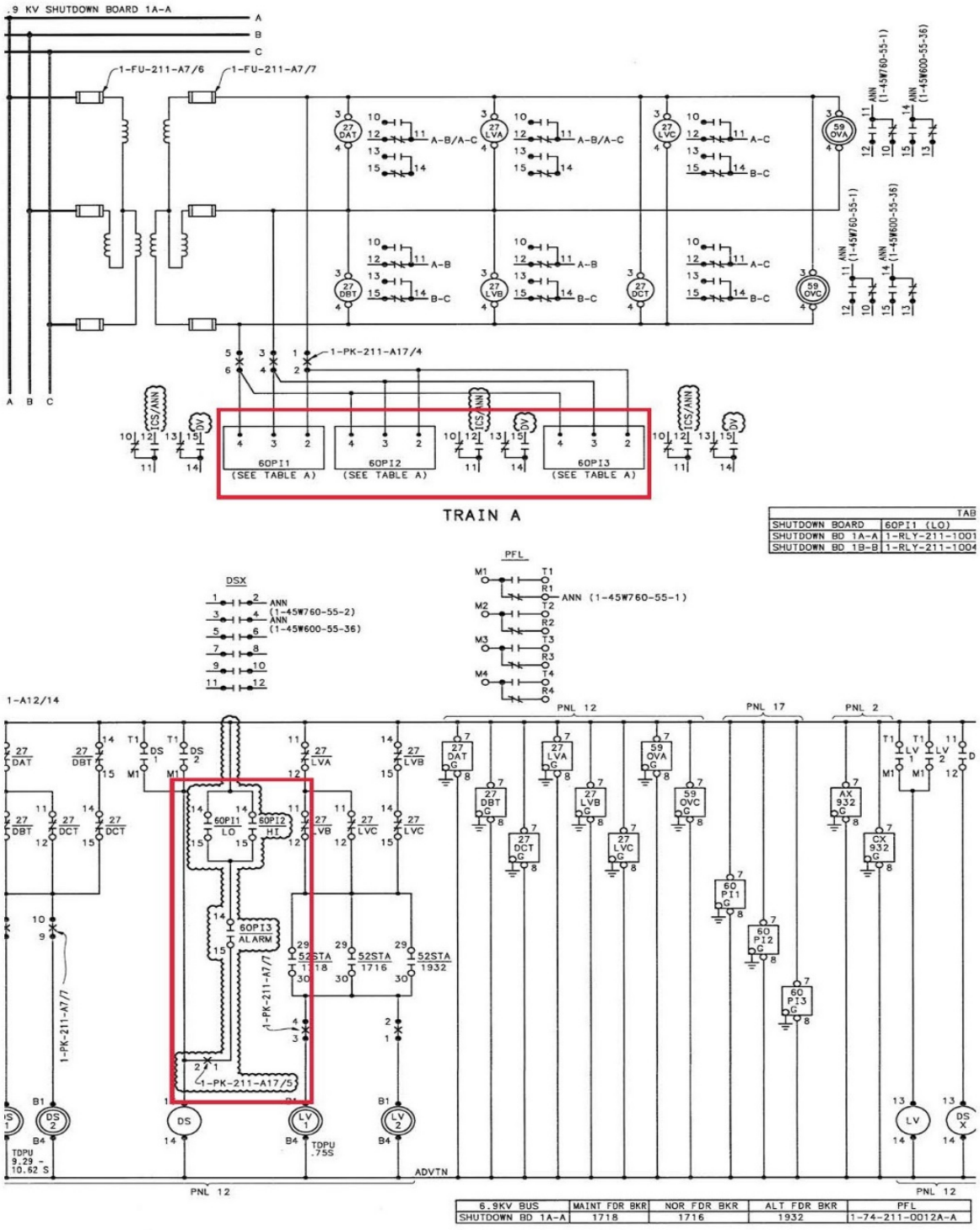
> "MODES 1, 2, 3, and 4,
> When associated DG is required to be OPERABLE by LCO 3.8.2,
> "AC Sources-Shutdown."

During the performance of maintenance on the 6.9 kV SDBD 1A-A, all three unbalanced voltage relays (i.e., 60PI1, 60PI2, and 60IP3) are removed from service. As shown in Figure 1, the relaying for open phase conditions is monitored by the three unbalanced voltage relays on each SDBD. The maintenance activities associated with the 6.9 kV SDBD 1A-A will require the unbalanced voltage relays to be removed from service for board cleaning/inspection and will also allow restoration of the board. The maintenance for the WBN Unit 1 6.9 kV SDBD 1A-A is scheduled to be performed during the WBN Unit 1 Cycle 16 refueling outage, which is scheduled to commence on

April 23, 2020. During this maintenance, WBN Unit 1 will be defueled and the 6.9 kV SDBD 1A-A will be de-energized. Because the electrical distribution system is shared between WBN Units 1 and 2, de-energizing the unbalanced voltage relays of 6.9 kV SDBD 1A-A also affects WBN Unit 2. Therefore, without this proposed license amendment, WBN Unit 2 would be required to enter TS 3.0.3.

There are no other scheduled maintenance or surveillance activities between the date of this submittal and the date for performing the channel calibration that would render more than one unbalanced voltage relay inoperable. However, in the event there is an activity that would remove the unbalanced voltage relay channel(s) from service, restoration of the affected channel(s) would either occur within the one-hour Completion Time of TS 3.3.5, Condition C, or the associated DG would be declared inoperable in accordance with TS 3.3.5, Condition D, or WBN Unit 2 would be required to enter TS 3.0.3 (if more than one channel is inoperable).

Figure 1
Excerpt from 6.9 kV Shutdown Power Train A and B Schematic Diagram



(Typical of each Shutdown Board)

3.3 Conclusion

NRC approval of this proposed LAR will preclude entry into WBN Units 1 and 2 TS 3.0.3 whenever more than one channel per bus for the 6.9 kV Emergency Bus Undervoltage (Unbalanced Voltage) Function is inoperable. The proposed TS changes are consistent with the STS.

4.0 REGULATORY EVALUATION

4.1 PRECEDENT

TVA did not identify any applicable regulatory precedent regarding the changes proposed by TVA in this LAR. As noted in Section 3.1 to this enclosure, the proposed TS changes are consistent with the existing WBN Units 1 and 2 TS 3.3.5, Condition B, and the STS.

4.2 SIGNIFICANT HAZARDS CONSIDERATION

Tennessee Valley Authority (TVA) is requesting an amendment to Facility Operating Licenses NPF-90 and NPF-96 for the Watts Bar Nuclear Plant (WBN), Units 1 and 2, respectively. The proposed amendment revises WBN Units 1 and 2 Technical Specification (TS) 3.3.5, Condition C to require, with one or more channels per bus inoperable, restoring the channels to operable status within one hour.

Previously, the Nuclear Regulatory Commission (NRC) approved a TVA fleet-wide license amendment request (LAR) to change the TS for the TVA fleet by adding a new level of protection, “Unbalanced Voltage,” to the TS for the loss of power (LOP) instrumentation for the Browns Ferry Nuclear Plant (BFN), Sequoyah Nuclear Plant (SQN), and WBN (ML18277A110). Subsequently, TVA submitted a non-voluntary LAR (ML19296C538) to correct three incorrect instrument values in WBN Units 1 and 2 TS Table 3.3.5-1, “LOP DG Start Instrumentation,” Function 5, “6.9 kV Emergency Bus Undervoltage (Unbalanced Voltage),” which was approved by the NRC (ML19336C519). WBN Units 1 and 2 TS Table 3.3.5-1 requires three channels to be operable for Function 5.

Following implementation of the above license amendments, TVA identified that the WBN Units 1 and 2 TS 3.3.5, Condition C, which applies to Function 5 in Table 3.3.5-1 for the 6.9 kV Emergency Bus Undervoltage relays, only addresses the required action when one channel per bus is inoperable (i.e., restore the channel to operable status within one hour). Therefore, if more than one channel per bus in Function 5 is inoperable, TVA would be required to enter TS 3.0.3, which states:

> “When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:
>
> a. MODE 3 within 7 hours;
>
> b. MODE 4 within 13 hours; and
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> c. MODE 5 within 37 hours”.

This was an oversight on TVA's part when developing the WBN Units 1 and 2 TS 3.3.5, Condition C. Both the BFN and SQN TS, as approved by the NRC (ML18277A110) provide actions for when one or more unbalanced voltage relays or channels are inoperable. Furthermore, the proposed change is consistent with the Westinghouse Standard TS (STS) (NUREG-1431, Revision 4.0), STS 3.3.5.A and B, "LOP DG Start Instrumentation." Required Action B.1 of Condition B to STS 3.3.5.A and B also states with one or more Functions with two or more channels per bus inoperable then restore all but one channel to operable status within one hour.

Therefore, the proposed LAR corrects an oversight in WBN Units 1 and 2 TS 3.3.5, Condition C to address required actions when more than one channel per bus is inoperable.

TVA evaluated the proposed changes to the TS using the criteria in Section 50.92 to Title 10 of the *Code of Federal Regulations* and has determined that the proposed changes do not involve a significant hazards consideration. As required by 10 CFR 50.91(a), the TVA analysis of the issue of no significant hazards consideration is presented below:

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

   Response: No.

   The proposed changes correct the WBN Units 1 and 2 TS 3.3.5, Condition C to address required actions when more than one channel per bus is inoperable. This change corrects an oversight in the initial development of Condition C and is consistent with similar requirements in WBN Units 1 and 2 TS 3.3.5, Condition B, and the Westinghouse STS 3.3.5.A and B. Thus, this change makes no impact on the probability nor consequences of an accident.

   Based on the above, it is concluded that the proposed changes do 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 correct the WBN Units 1 and 2 TS 3.3.5, Condition C to address required actions when more than one channel per bus is inoperable. The proposed changes are in conformance with the existing plant design, and will operate as credited in existing accident analyses.

   Based on the above, it is concluded that 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 proposed changes correct the WBN Units 1 and 2 TS 3.3.5, Condition C to address required actions when more than one channel per bus is inoperable. The safety analysis acceptance criteria are not affected by this change. The proposed changes will not result in plant operation in a configuration outside or different from the existing design basis.

Based on the above, it is concluded that the proposed changes do 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.

Conclusions

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. 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. NRC Letter to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3; Sequoyah Nuclear Plant, Units 1 and 2; Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 309, 332, 292, 345, 339, 128, and 31 Regarding Unbalanced Voltage Protection (EPID L-2017-LLA-0391)," dated August 27, 2019 (ML18277A110)
2. TVA letter to NRC, CNL-19-097, “Watts Bar Nuclear Plant, Units 1 and 2, Non-Voluntary License Amendment Request to Correct Unbalanced Voltage Relay Instrumentation Values (TS-19-22),” dated October 23, 2019 (ML19296C538)
3. NRC Letter to TVA, "Watts Bar Nuclear Plant, Units 1 and 2 - Issuance of Amendment Nos. 131 and 34 Regarding Correction to Unbalanced Voltage Relay Instrumentation Values (EPID L-2019-LIA-0228)," dated December 10, 2019 (ML19336C519)
4. TVA Letter to NRC, CNL-18-130, “Revised Application to Modify the Technical Specifications for the Browns Ferry Nuclear Plant (TS-512), Sequoyah Nuclear Plant (TS-17-03) and Watts Bar Nuclear Plant (TS-17-20) to Incorporate New Technical Specification for Unbalanced Voltage Relays,” dated November 19, 2018 (ML18324A609)

Enclosure

Attachment 1

Proposed TS Changes (Mark-Ups) for WBN Units 1 and 2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
----------NOTE---------- Only applicable to Function 5 ---------- C. One or more ~~Functions with one~~ channels per bus inoperable.	C.1 Restore channel(s) to OPERABLE status.	1 hour
D. Required Action and associated Completion Time not met.	D.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	92 days
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	6 months
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	18 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
----------NOTE---------- Not applicable to Function 5 ----------			
B. One or more Functions with two or more channels per bus inoperable.	B.1	Restore all but one channel to OPERABLE status.	1 hour
----------NOTE---------- Only applicable to Function 5 ----------			
C. One or more ~~Functions with one~~ channel(s) per bus inoperable.	C.1	Restore channel(s) to OPERABLE status.	1 hour
D. Required Action and associated Completion Time not met.	D.1	Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

Enclosure

Attachment 2

Proposed TS Changes (Final Typed) for WBN Units 1 and 2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
----------NOTE---------- Only applicable to Function 5 ----------		
C. One or more channels per bus inoperable.	C.1 Restore channel(s) to OPERABLE status.	1 hour
D. Required Action and associated Completion Time not met.	D.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
Refer to Table 3.3.5-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1	----------NOTE---------- Verification of relay setpoints not required. ---------- Perform TADOT.	92 days
SR 3.3.5.2	Perform CHANNEL CALIBRATION.	6 months
SR 3.3.5.3	Perform CHANNEL CALIBRATION.	18 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
----------NOTE---------- Not applicable to Function 5 ----------			
B. One or more Functions with two or more channels per bus inoperable.	B.1	Restore all but one channel to OPERABLE status.	1 hour
----------NOTE---------- Only applicable to Function 5 ----------			
C. One or more channels per bus inoperable.	C.1	Restore channel(s) to OPERABLE status.	1 hour
D. Required Action and associated Completion Time not met.	D.1	Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

Enclosure

Attachment 3

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

BASES

ACTIONS

A.1 (continued)

turbine driven auxiliary feedwater pump required in LCO 3.3.2. The Required Actions of LCO 3.3.2 are entered in addition to the requirements of this LCO.

B.1

Condition B applies when more than one channel on a single bus is inoperable.

A Note has been added to Condition B which states that this Condition is not applicable to Function 5 of Table 3.3.5-1.

Required Action B.1 requires restoring all but one channel to OPERABLE status. The 1 hour Completion Time should allow ample time to repair most failures and takes into account the low probability of an event requiring an LOP start occurring during this interval.

C.1

Condition C applies to the LOP Diesel Start function for unbalanced voltage with one or more channels per bus inoperable.

A Note has been added which states that Condition C is only applicable to Function 5 of Table 3.3.5-1.

Required Action C.1 requires restoring the ~~all~~ channel(s) ~~unbalanced voltage relays~~ to OPERABLE status. The 1 hour Completion Time takes into account the low probability of an event requiring a LOP start occurring during this interval.

D.1

Condition D applies to each of the LOP DG start Functions when the Required Action and associated Completion Time for Condition A, B, or C are not met.

In these circumstances the Conditions specified in LCO 3.8.1, "AC Sources—Operating," or LCO 3.8.2, "AC Sources—Shutdown," for the DG made inoperable by failure of the LOP DG start instrumentation are required to be entered immediately. The actions of those LCOs provide for adequate compensatory actions to assure unit safety.

SURVEILLANCE REQUIREMENTS

A Note has been added to refer to Table 3.3.5-1 to determine which Surveillance Requirements apply for each LOP Function.

SR 3.3.5.1

SR 3.3.5.1 is the performance of a TADOT. This test is performed every 92 days. The test checks operation of the undervoltage, degraded voltage, and unbalanced voltage relays that provide actuation signals. The Frequency is based on the known reliability of the relays and timers and the redundancy available, and has been shown to be acceptable through operating experience.

(continued)

BASES

ACTIONS (continued)

C.1

Condition C applies to the LOP Diesel Start function for unbalanced voltage with one or more channels per bus inoperable.

A Note has been added which states that Condition C is only applicable to Function 5 of Table 3.3.5-1.

Required Action C.1 requires restoring the channel(s)~~all unbalanced voltage relays~~ to OPERABLE status. The 1 hour Completion Time takes into account the low probability of an event requiring a LOP start occurring during this interval.

D.1

Condition D applies to each of the LOP DG start Functions when the Required Action and associated Completion Time for Condition A, B, or C are not met.

In these circumstances the Conditions specified in LCO 3.8.1, "AC Sources - Operating," or LCO 3.8.2, "AC Sources - Shutdown," for the DG made inoperable by failure of the LOP DG start instrumentation are required to be entered immediately. The actions of those LCOs provide for adequate compensatory actions to assure unit safety.

SURVEILLANCE REQUIREMENTS

A Note has been added to refer to Table 3.3.5-1 to determine which Surveillance Requirements apply for each LOP Function.

SR 3.3.5.1

SR 3.3.5.1 is the performance of a TADOT. This test is performed every 92 days. The test checks operation of the undervoltage, degraded voltage, and unbalanced voltage relays that provide actuation signals. There is a plant specific program which verifies that the instrument channel functions as required by verifying the as left and as found setting are consistent with those established by the setpoint methodology. The Frequency is based on the known reliability of the relays and timers and the redundancy available, and has been shown to be acceptable through operating experience.

This SR has been modified by a Note that excludes verification of setpoints for relays/timers. Relay/timer setpoints require elaborate bench calibration and are verified during a CHANNEL CALIBRATION.

(continued)