

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

October 4, 2016

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 16-324
NAPS/JHL R0
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
ANNUAL SUBMITTAL OF TECHNICAL SPECIFICATION BASES CHANGES
PURSUANT TO TECHNICAL SPECIFICATION 5.5.13.d

Pursuant to Technical Specification 5.5.13.d, "Technical Specifications (TS) Bases Control Program," Dominion hereby submits the changes to the Bases of the Technical Specifications implemented during the period of October 1, 2015 through September 30, 2016. A summary of these changes is provided in Attachments 1 and 2. Enclosed is an electronic copy (CD) of the entire TS Bases through Revision 60 for your information.

Bases changes to the Technical Specifications that were not previously submitted to the NRC as part of a License Amendment Request were reviewed and approved by the Facility Safety Review Committee. It was determined that these changes did not require a change to the Technical Specifications or license, or involve a change to the UFSAR or Bases that required NRC prior approval pursuant to 10CFR50.59. These changes have been incorporated into the TS Bases. A summary of these Bases changes is provided in Attachment 1.

TS Bases changes that were submitted to the NRC for information along with the associated License Amendment Request transmittals, submitted pursuant to 10CFR50.90, were also reviewed and approved by the Facility Safety Review Committee. These changes have been implemented with the respective License Amendments. A summary of these changes is provided in Attachment 2.

If you have any questions regarding this submittal, please contact Mr. Donald R. Taylor at (540) 894-2100.

Sincerely,



L. A. Hilbert
Director, Nuclear Safety and Licensing

ADD1
NRR

Attachments

1. Summary of TS Bases Changes Not Previously Submitted to the NRC
2. Summary of TS Bases Changes Associated with License Amendments

Enclosure – CD of Current TS Bases (Revision 60)

Commitments made in this letter: None

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NRC Senior Resident Inspector (without Enclosure)
North Anna Power Station

ATTACHMENT 1

**SUMMARY OF TS BASES CHANGES NOT
PREVIOUSLY SUBMITTED TO THE NRC**

**VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2**

SUMMARY OF TS BASES CHANGES NOT PREVIOUSLY SUBMITTED TO THE NRC

Revision of Technical Specification Bases 3.9.3

The change revised the Bases of Technical Specification (TS) 3.9.3, Nuclear Instrumentation, to remove a statement regarding the source range nuclear instrumentation capability. The Applicable Safety Analyses section indicates, in part, that the source range neutron flux monitors can detect an improperly loaded fuel assembly. The ex-core source range instrumentation cannot detect a single misloaded fuel assembly due to the small reactivity change. The change deletes the phrase "or an improperly loaded fuel assembly" from the Bases of TS 3.9.3.

Revision of Technical Specification Bases 3.7.8

The change revised the Bases of Technical Specification (TS) 3.7.8, Service Water (SW) System, to clarify the Limiting Condition for Operation (LCO) that a SW loop is OPERABLE during Modes 1, 2, 3, and 4 when two spray arrays are OPERABLE in an OPERABLE flow path and the spray valves for the required OPERABLE spray arrays are secured in the accident position and power removed from the valve operators. The TS Bases previously required that two spray arrays are OPERABLE in the other loop and that the spray valves for the required OPERABLE spray arrays in both loops are secured in the accident position and power removed from the valve operators.

Design Changes Packages (DCPs) 02-175 and 02-176, Service Water Spray Array SI Signal Actuation Cross-Tie Modifications were previously implemented to modify the Service Water System. These DCPs modified the service water pump start, service water pump manual trip block circuit, and spray array MOVs such that each component receives an additional same unit, opposite train SI signal. The physical condition of the post modification plant is that equipment will receive a SI signal from the respective train (existing), a second SI signal from the respective train, opposite unit (existing) and a third SI signal from the opposite train, same unit (new). These changes eliminated the conditions that required protection for a single active failure of the actuation circuitry. The DCPs included some changes to the Bases of TS 3.7.8. However, with the elimination of the single active failure of the actuation circuitry, the Bases should have been revised to delete the requirement to have two spray arrays OPERABLE in the other loop and the spray valves in both loops be secured in the accident position and power removed from the valve operators.

Revision of Technical Specification Bases 3.2.1

The change revised the Bases of Technical Specification (TS) 3.2.1, Heat Flux Hot Channel Factor ($F_Q(z)$), to decrease the upper and lower core exclusion zones for F_Q surveillance to ensure peak $F_Q(z)$ locations are evaluated.

The TS Bases for Surveillance Requirement (SR) 3.2.1.1 previously stated that the upper and lower 15% of the core are not applicable for surveillance of F_Q . The reason for this was that historically the chances of the limiting F_Q margin occurring in the top and bottom of the core was low and accurate measurements in those regions are more difficult. However, operating experience identified the location of a peak steady state F_Q was found in the exclusion region. Therefore, the Bases of SR 3.2.1.1 was revised to: 1) update the lower core not applicable region from "0 to 15%" to "0 to 8%" and update the upper core not applicable region from "85 to 100%" to "92 to 100%", and 2) update the top and bottom core exclusion region from 15% to 8% and add a reference for the value.

Revision of Technical Specification Bases 3.1.9

The change revised the Bases of Technical Specification (TS) 3.1.9, Physics Tests Exceptions- Mode 2 to 1) change the description of the flux symmetry verification which would allow verification via direct or indirect measurement prior to exceeding 30% rated thermal power (RTP) (if a confirmatory indirect measurement of flux symmetry is attained then a direct power distribution may be deferred to less than or equal to 50% RTP, 2) change the reference for physics testing associated with a letter from Virginia Electric and Power Company to U.S. Nuclear Regulatory Commission, dated December 8, 1989 (Serial No. 89-541) entitled, "Virginia Electric and Power Company, Surry Power Station Units 1 and 2, North Anna Power Station Units 1 and 2, Modification Of Startup Physics Test Program Inspector Follow-up Item 280, 281/88-29-01", to VEP-FRD-36, Rev. 0.3-A "Control Rod Reactivity Worth Determination by the Rod Swap Technique", and 3) change the startup physics testing standard from ANSI/ANS-19.6.1-1997 to ANSI/ANS-19.6.1-2011.

ATTACHMENT 2

**SUMMARY OF TS BASES CHANGES
ASSOCIATED WITH LICENSE AMENDMENTS**

**VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2**

SUMMARY OF TS BASES CHANGES ASSOCIATED WITH LICENSE AMENDMENTS

Alternate Offsite Power Circuits

Technical Specification (TS) Surveillance Requirement (SR) 3.8.1.8 required that the manual transfer of Unit 1 Engineered Safety Feature (ESF) 4.16 kV AC power sources from the normal offsite circuit to the alternate required offsite circuit be verified in accordance with the Surveillance Frequency Control Program. Design Change (DC) NA-13-00016 installed alternate offsite circuits to the Unit 2 ESF buses. Therefore, the surveillance requirement was revised to also apply to Unit 2. TS Bases 3.8.1.1 Limiting Condition for Operation (LCO) was revised to discuss the station service buses that provide the alternate preferred feed to the specific emergency buses. TS Bases SRs 3.8.1.1 and 3.8.1.8 were revised to make the discussion of having a normal and alternate offsite source applicable to both Units 1 and 2, rather than to Unit 1, only. TS Bases 3.8.2 LCO was revised to discuss the alternate feed for the Unit 2 Emergency Bus 2H and 2J. TS Bases 3.8.3 Actions was revised to remove the discussion on the 4kV safeguards bus cross-tie. TS Bases 3.8.9 Background was revised to make the discussion of having a normal and alternate offsite source applicable to both Units 1 and 2.

The Bases changes noted above were submitted to the NRC by Dominion submittal dated May 22, 2015 and incorporated into the Bases for North Anna Units 1 and 2 on March 18, 2016 upon NRC approval and implementation of the associated Technical Specification changes (Amendment 260 for Unit 2 issued on February 22, 2016).