

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

10 CFR 50.90

March 26, 2018

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 18-123
NRA/DEA R1
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
SUPPLEMENT TO PROPOSED LICENSE AMENDMENT REQUEST
TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-522,
REVISE VENTILATION SYSTEM SURVEILLANCE REQUIREMENTS TO
OPERATE FOR 10 HOURS PER MONTH

By letter dated January 22, 2018 (ADAMS Accession No. ML18029A118), Virginia Electric and Power Company (Dominion Energy Virginia) submitted a proposed license amendment request (LAR) to modify the Technical Specifications (TS) for North Anna Power Station (NAPS) Units 1 and 2, to operate ventilation systems with charcoal filters for 10 hours each month in accordance with Technical Specifications Task Force traveler 522 (TSTF-522), Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month." The NRC staff determined that the information provided in the LAR is not of sufficient detail to enable the NRC staff to proceed with its detailed technical review regarding the acceptability of the proposed LAR.

On March 7, 2018, a telecom was held between the NRC and Dominion to discuss the Acceptance Review Findings and a LAR Supplement schedule related to the proposed LAR. As discussed during the telecom, a change to the Ventilation Filter Testing Program (VFTP) was not proposed in TSTF-522, nor evaluated by the staff in making TSTF-522 available for adoption. Therefore, the NRC staff requested justification be provided in the LAR supplement for the proposed increase in relative humidity from 70% to 95% for the testing of the Main Control Room / Emergency Switch Gear Room Emergency Ventilation System in TS 5.5.10.c., and the corresponding removal of the requirement to have the ventilation system heaters operating in SR 3.7.10.1. In addition, the NRC staff requested the LAR supplement include a revision, as necessary, to the proposed no significant hazards consideration evaluation that fully addresses the proposed changes to the VFTP, in addition to the changes endorsed in TSTF-522. A submittal date of March 26, 2018 was agreed upon for the LAR supplement.

By letter dated March 8, 2018, the NRC formally provided Dominion an opportunity to supplement the proposed LAR identified above.

Attachment 1 provides Dominion Energy Virginia's response to NRC's request for supplemental information.

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If you have any questions or require additional information, please contact Ms. Diane E. Aitken at (804) 273-2694.

Sincerely,



Mark Sartain
Vice President Nuclear Engineering and Fleet Support

Attachments

1. Supplemental Response, Proposed License Amendment Request to Revise Technical Specifications to Adopt TSTF-522

This letter contains no NRC commitments.

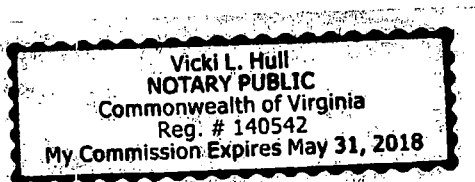
COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by M. D. Sartain who is Vice President - Nuclear Engineering and Fleet Support of Virginia Electric and Power Company. He has affirmed before me that he is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 26TH day of March, 2018.

My Commission Expires: May 31, 2018.




Notary Public

cc: U.S. Nuclear Regulatory Commission
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ATTACHMENT 1

SUPPLEMENTAL RESPONSE

**PROPOSED LICENSE AMENDMENT REQUEST TO REVISE
TECHNICAL SPECIFICATIONS TO ADOPT TSTF-522**

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

Supplemental Response

Proposed License Amendment Request to Revise Technical Specifications to Adopt TSTF-522

By letter dated January 22, 2018 (ADAMS Accession No. ML18029A118), Virginia Electric and Power Company (Dominion Energy Virginia) submitted a proposed license amendment request (LAR) to modify the Technical Specifications (TS) for North Anna Power Station (NAPS) Units 1 and 2, requirement to operate ventilation systems with charcoal filters for 10 hours each month in accordance with Technical Specifications Task Force traveler 522 (TSTF-522), Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month." The NRC staff determined that the information provided in the LAR is not of sufficient detail to enable the NRC staff to proceed with its detailed technical review regarding the acceptability of the proposed LAR.

By letter dated March 8 2018, the NRC provided Dominion an opportunity to supplement the proposed LAR as follows:

NRC INFORMATION REQUEST NO. 1

Dominion should supplement the application to provide a detailed discussion and justification of the proposed VFTP changes because the LAR does not provide this level of detail and a change to the VFTP was not proposed by the TSTF in TSTF-522, nor evaluated by the staff in making TSTF-522 available for adoption. Specifically, the increase in relative humidity from 70% to 95% for the testing of the MCR/ESGR EVS in TS 5.5.10.c., and the corresponding removal of the requirement to have the heaters operating in SR 3.7.10.1, should be explicitly addressed and justified.

DOMINION RESPONSE

The Main Control Room (MCR) / Emergency Switchgear Room (ESGR) Emergency Ventilation System (EVS) provides a protected environment from which occupants can control the unit following an uncontrolled release of radioactivity, hazardous chemicals, or smoke. The MCR/ESGR EVS consists of four 100% capacity redundant trains (2 per unit) that can filter and recirculate air inside the MCR/ESGR envelope or supply filtered makeup air to the MCR/ESGR envelope, and a MCR/ESGR boundary that limits the in-leakage of unfiltered air. Each train consists of a heater, demister filter, a high efficiency particulate air (HEPA) filter, an activated charcoal adsorber section for removal of gaseous activity (principally iodines), and a fan. The sole purpose of the heaters, powered from the emergency buses, is to maintain the relative humidity below 70%.

Dominion Energy Virginia proposes to increase the relative humidity specified in Technical Specification (TS) 5.5.10.c for the MCR/ESGR EVS from 70% to 95% and

remove the operability and surveillance requirements for the associated heaters from Technical Specifications 3.7.10.1 and TS 5.5.10.e, respectively.

Technical Specification (TS) 5.5.10.c, Ventilation Filter Testing Program (VFTP) for the MCR/ESGR EVS, is currently performed in accordance with ASTM D3803-1989, "Standard Test Method for Nuclear Grade Activated Carbon," at a relative humidity of 70%, as specified. Based on guidance provided in ASTM D3803-1989, an increase in the relative humidity (RH) from 70% to 95% increases the amount of methyl iodide penetration. Specifically, at 70% RH, the average penetration is 0.10% +/- NA and at 95% relative humidity; the average penetration is 0.56% +/- 11%. Although removal of the heaters and subsequent escalation in RH increases the charcoal methyl iodide penetration, the acceptance criterion for methyl iodide penetration of 2.5% specified in TS 5.5.10.c will continue to be met. The North Anna radiological accident analysis of record (AOR) assumes MCR/ESGR EVS methyl iodide filter efficiency of 95%. Therefore, the North Anna radiological AOR filter efficiency assumptions, without crediting the heaters, is not affected and a safety factor of at least 2 is maintained in the Technical Specification acceptance criterion.

Additionally, removal of the heaters will reduce the electrical loading on the emergency diesel generators, thereby increasing the margin to the design load limit for each diesel generator.

NRC INFORMATION REQUEST NO. 2

Similarly, Dominion should review and revise, as necessary, the proposed no significant hazards consideration evaluation provided in the LAR, to ensure that the evaluation fully addresses the proposed changes to the VFTP, in addition to the changes endorsed in TSTF-522.

DOMINION RESPONSE

No Significant Hazards Consideration

By letter dated January 22, 2018 (ADAMS Accession No. ML18029A118), Virginia Electric and Power Company (Dominion Energy Virginia) requests adoption of an approved change to the standard technical specifications (STS) and plant specific Technical Specifications (TS), to revise TS 3.7.10, "Control Room Emergency Filtration System (MCR/ESGR EVS)," and TS 3.7.12, "Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System (PREACS)," in the STS for Westinghouse plants (NUREG-1431) from operating the MCR/ESGR EVS and ECCS PREACS with the electric heaters for a continuous 10 hour period every 31 days to require operation of the systems for 15 continuous minutes every 31 days. The proposed amendment is consistent with Technical Specifications Task Force traveler 522 (TSTF-522), Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month." In addition, Dominion Energy Virginia requests an increase to the relative

humidity specified in Technical Specification (TS) 5.5.10.c for the MCR/ESGR EVS from 70% to 95% and removal of the operability and surveillance requirements for the associated heaters from Technical Specifications 3.7.10.1 and TS 5.5.10.e, respectively. An administrative change is also being made to the Environmental Protection Plan (EPP) as part of this change to reflect current code numbering. As discussed below, the TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." Likewise, Dominion Energy Virginia has evaluated whether or not a significant hazards consideration is involved with the proposed increase in RH specified in TS 5.5.10.c.:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

These systems are not accident initiators. The proposed changes do not change any of the previously evaluated accidents in the Updated Final Safety Analysis Report (UFSAR) and therefore, these changes do not involve a significant increase in the probability of an accident. The proposed system and filter testing changes are consistent with ASTM D3803-1989 for these systems and will continue to assure that these systems perform their design function of mitigating accidents via filtration. The proposed change does not change the conclusions of the NAPS radiological accident analysis of record (AOR) and the safety factor of at least 2 is maintained in the TS acceptance criterion for methyl iodide penetration. Thus the change does not involve a significant increase in the consequences of an accident.

The proposed change modifies existing SRs to operate the ECCS PREACS Systems equipped with electric heaters and the MCR/ESGR EVS for a continuous 10 hour period every 31 days with a requirement to operate the systems for 15 continuous minutes every 31 days with heaters operating, if needed. In addition, it is proposed to remove the electrical heater output test in the VFTP (TS 5.5.10.e) and make a corresponding change to the charcoal filter testing (TS 5.5.10.c) to require testing be conducted at a humidity of at least 95% RH. The proposed change does not increase the likelihood of a malfunction of an SSC. The result of this change will be the eventual removal of un-needed equipment. Since the equipment is not needed and the removal will make the system less complex, the probability of a malfunction of the MCR/ESGR EVS is not significantly increased.

Additionally, the removal of the post-accident electrical load associated with the MCR/ESGR EVS heaters reduces the electrical load on the emergency diesel

generators. This will provide additional margin regarding the capability of emergency power.

The change to the EPP is administrative in nature to reflect approved NRC references (codes).

Therefore, it is concluded that 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 MCR/ESGR EVS and ECCS PREACS are accident response systems and as such, do not cause or initiate accidents. The proposed change for these ventilation systems does not functionally change the design or operation of these systems. The deletion of the heater operability and surveillance requirements for the MCR/ESGR EVS is based on the heaters not being needed for mitigation of any accident condition and does not significantly affect the operation of these systems. These systems will continue to meet the functional requirements in the current radiological accident analysis of record (AOR) for NAPS and maintain calculated dose consequences within acceptable limits. Testing requirements will be revised and will continue to demonstrate that the Limiting Conditions for Operation are met and the system components are capable of performing their intended safety functions. The proposed change does not create new failure modes or mechanisms and no new accident precursors are generated.

The change to the EPP is administrative in nature to reflect approved NRC references (codes).

Therefore, it is concluded that this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

Response: No

The removal of the MCR/ESGR EVS heaters will result in a reduction in the efficiency of the charcoal absorber due to the removal of the humidity reduction affect. The proposed increase to 95% RH during the required testing of the MCR/ESGR EVS charcoal filters compensates for the function of the heaters, which was to reduce the humidity of the incoming air to below the currently-specified value of 70% RH for the charcoal. These changes are bounded within

the assumptions of the AOR. The removal of the heaters does not alter the safety margins contained in the radiological accident analysis. The charcoal absorber sample laboratory testing protocol accurately demonstrates the required performance of the absorbers in the MCR/ESGR EVS and ECCS PREACS following a design basis accident. These testing standards ensure adequate margin exists and that the charcoal will perform its design basis function. The offsite and control room dose analyses of record are not affected by this change.

Furthermore, deletion of the heater operability and surveillance requirements for the MCR/ESGR EVS will allow the MCR/ESGR EVS heaters to be permanently de-energized. This will result in an increase in the margin between the post-accident calculated load and the load limitation on the emergency diesel generators.

The change to the EPP is administrative in nature to reflect approved NRC references (codes).

Therefore, it is concluded that this change does not involve a significant reduction in a margin of safety.

Based on the above, Dominion Energy Virginia concludes that the proposed change presents no significant hazards considerations under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.