VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

March 4, 2004

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

Serial No. 04-122
NL&OS/ETS R0
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
PROPOSED TECHNICAL SPECIFICATION CHANGES
DELETION OF NOTE FOR PERFORMANCE OF COT

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests amendments, in the form of changes to the Technical Specifications to Facility Operating Licenses Numbers NPF-4 and NPF-7 for North Anna Power Station Units 1 and 2, respectively. The proposed changes will delete the Note from Surveillance Requirement (SR) 3.4.12.7 for the power-operated relief valves. The Note is not required since the surveillance can be performed prior to entering a Mode where the PORVs are required to be operable for low temperature overpressure protection. A discussion of the proposed Technical Specifications changes is provided in Attachment 1. The marked-up and proposed Technical Specifications pages are provided in Attachments 2 and 3, respectively. The associated Bases changes are being provided for information only and are being implemented in accordance with the Technical Specification Bases Control Program and 10 CFR 50.59.

We have evaluated the proposed Technical Specifications changes and have determined that they do not involve a significant hazards consideration as defined in 10 CFR 50.92. The basis for our determination that the changes do not involve a significant hazards consideration is provided in Attachment 4.

If you have any further questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments

A001

Commitments made in this letter:

1. None

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SN: 04-122
Docket Nos.: 50-338/339

Subject: Proposed Technical Specification Changes Deletion of Note For Performance Of COT

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz who is Vice President – Nuclear Engineering of Virginia Electric and Power Company. She has affirmed before me that she 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 4th day of March, 2004.

My Commission Expires: 3/31/08.

Maggie McCune
Notary Public

(SEAL)

Attachment 1

Discussion of Change

North Anna Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

Discussion of Changes

Introduction

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests a change to the Technical Specifications Surveillance Requirement (SR) 3.4.12.7 associated with the performance of a Channel Operational Test (COT) on each required PORV for low temperature overpressure protection (LTOP). The proposed change will delete the Note in SR 3.4.12.7, which was incorporated during the Improved Technical Specifications (ITS) conversion project, that permitted the performance of the COT within 12 hours of entering a Mode in which the PORV is required operable for LTOP. As a result of deleting this Note, this surveillance will be consistent with the system design and the original Technical Specification Surveillance Requirements (SR 4.4.9.3), which required the performance of the surveillance within 31 days prior to entering a condition in which the PORV is required.

The associated Bases changes are being processed in accordance with Technical Specification 5.5.13, "Technical Specifications (TS) Bases Control Program" and are included for information. Based upon the evaluation required by the Bases control program, the proposed changes do not require a change to the UFSAR. Additionally, the changes have been evaluated to ensure that the Bases are an accurate representation of the plant design and licensing basis.

Design/Licensing Bases

The Low Temperature Overpressure Protection System controls RCS pressure at low temperatures so the integrity of the reactor coolant pressure boundary is not compromised by violating the system's design basis pressure and temperature limit curve. LCO 3.4.12 provides the maximum allowable actuation logic setpoints for the power operated relief valves (PORVs) and the RCS Pressure and Temperature Limits provide the maximum RCS pressure for the existing RCS cold leg temperature during cooldown, shutdown, and heatup to meet the requirements of 10 CFR 50 Appendix G during the LTOP Modes. This LCO is applicable in Mode 4 when the RCS cold leg temperature is less than or equal to 235°F for Unit 1 and 270°F for Unit 2, in Mode 5, and in Mode 6 when the reactor vessel head is on.

Discussion

During the conversion of the North Anna Technical Specifications to the Improved Technical Specifications utilizing the guidance of NUREG-1431, the Note that permits performing a Channel Operational Test on each required PORV after entering the LTOP Modes was incorporated into the NAPS Improved Technical Specifications. The original Technical Specifications SR 4.4.9.3.a required the performance of a Channel Functional Test on the PORV actuation channel, excluding valve operation, within 31 days prior to entering a condition in which the PORV is required to be Operable and at least once per 31 days thereafter when the PORV is required operable. During the conversion to ITS,

Surveillance Requirement 3.4.12.7 was established to require the performance of a Channel Operational Test on each required PORV, excluding actuation, every 31 days with a notation that the surveillance requirement is not required to be met until 12 hours after decreasing RCS cold leg temperature to less than or equal to 235°F for Unit 1 and less than or equal to 270°F for Unit 2. The purpose of the COT is to verify and as necessary adjust the PORV lift setpoint and only pertains to the NDT/LTOP protection function of the PORVs in Modes 4 when any RCS cold leg temperature is less than or equal to 235°F for Unit 1 and 270°F for Unit 2, in Mode 5 and in Mode 6 when the reactor vessel head is on.

The current Note for SR 3.4.12.7 with supporting Bases states that the COT cannot be performed until in the LTOP Modes when the PORV lift setpoint can be reduced to the LTOP setting. This restriction was taken from NUREG-1431 and applied to the NAPS Improved Technical Specifications. The NUREG does not provide a rationale for this restriction. It appears that the restriction was based upon a system design equipped with only one set of controls, shared between high pressure and LTOPS application, and requiring transmitter rescaling and setpoint adjustment to transit from one Mode to the other. In such a design, it is necessary to wait to make adjustments until plant pressure can accommodate the change without causing the valves to lift. This was the original design of LTOPS at North Anna. However, modifications were implemented to create two separate and independent control systems, one for high pressure protection and another for LTOPS protection. This design, together with not having to actually lift the PORVs, allows the LTOPS circuits to be tested in any Mode at North Anna. This surveillance is normally performed in Mode 1 a few days prior to entering a refueling outage. Therefore, it is acceptable to perform this surveillance within 31 days prior to entering a Mode in which protection is required and every 31 days thereafter. This is also consistent with the original Technical Specifications SR 4.4.9.3.a which stated that each PORV shall be demonstrated operable by the performance of a Channel Functional Test on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required operable and at least once per 31 days thereafter when the PORV is required operable.

Proposed Changes

The proposed changes will delete the Note permitting the COT to be performed within 12 hours after entering a condition for which the PORV is required to be operable as noted below: The deletions are annotated with a strike through and additions are noted with bolded italics.

Technical Specification SR 3.4.12.7:

Delete following Note in SR 3.4.12.7:
~~"Not required to be met until 12 hours after decreasing RCS cold leg temperature to ≤ 235°F (Unit 1), 270°F (Unit 2)."~~

Bases for SR 3.4.12.7:

Revise first sentence in first paragraph to read:
"***The*** performance of a COT is required within ***31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE.*** ~~12 hours after decreasing RCS temperature to ≤ 235°F (Unit 1), 270°F (Unit 2) and every 31 days.~~ ***The purpose for the COT*** ~~on each required PORV~~ ***is*** to verify and, as necessary, adjust its lift setpoint."

Delete second paragraph
~~"The 12 hour Frequency considers the unlikelihood of a low temperature overpressure event during this time."~~

Delete third paragraph
~~"A Note has been added indicating that this SR is required to be met 12 hours after decreasing RCS cold leg temperature to ≤ 235°F (Unit 1), 270°F (Unit 2). The COT cannot be performed until in the LTOP MODES when the PORV lift setpoint can be reduced to the LTOP setting. The test must be performed within 12 hours after entering the LTOP MODES."~~

Safety Considerations

The proposed changes do not affect the ability of the LTOP to perform its safety function. The North Anna LTOP system design, together with not having to actually lift the PORVs, allows LTOPS circuits to be tested in any Mode. This surveillance, prior to the Improved Technical Specifications, was normally performed just prior to entering a refueling outage consistent with the original Tech Spec SR 4.4.9.3.a and system design. The original surveillance stated that each PORV shall be demonstrated OPERABLE by the performance of a Channel Functional Test on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE.

Environmental Review

10 CFR 51.22(c)(9) provides criteria for the identification of licensing and regulatory action eligible for categorical exclusion for performing an environmental assessment. A proposed amendment to an operating license for a facility does not require an environmental assessment if operation of the facility in accordance with the proposed Amendment would not (1) involve a significant hazards consideration, (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, and (3) result in a significant increase in individual or cumulative occupation radiation exposure.

The proposed changes have been reviewed and determined that they meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(c)(9), no environmental impact statement or environmental assessment

needs to be prepared in connection with the issuance of the proposed license amendment. The basis for this determination is as follows:

1. The amendment involves no significant hazards consideration.

   As described in the significant hazards consideration evaluation, attached to change request package, the proposed changes do not involve a significant hazards consideration.

2. There is no significant change in the type or significant increase in the amounts of any effluents that may be released offsite.

   The proposed changes do not involve the installation of any new equipment, or the modification of any equipment that may affect the types or amounts of effluents that may be released offsite. Therefore, there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

3. There is no significant increase in individual or cumulative occupation radiation exposure.

   The proposed changes do not involve plant physical changes, or introduce any new mode of operation. Therefore, there is no significant increase in individual or cumulative occupational radiation exposure.

References

The following references support the proposed Technical Specification changes and the evaluation of these changes.

1. Improved Technical Specification 3.4.12, "Low-Temperature Overpressure Protection System" with supporting Bases

2. Original Technical Specification 3.4.9.3, "Low-Temperature Overpressure Protection" with supporting Bases

3. UFSAR Sections 5.2.2, "Overpressurization Protection" and 5.5.8, "Safety and Relief Valves"

4. SBDB-NAPS-RC, "System Design Basis Document for Reactor Coolant System" Rev 0.

Attachment 2

Mark-up of Unit 1 and Unit 2 Technical Specifications Changes

North Anna Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.4	Verify required RCS vent ≥ 2.07 square inches open.	12 hours for unlocked open vent valve(s) AND 31 days for other vent paths
SR 3.4.12.5	Verify PORV block valve is open for each required PORV and PORV keyswitch is in AUTO.	72 hours
SR 3.4.12.6	Verify required PORV backup nitrogen supply pressure is within limit.	7 days
SR 3.4.12.7	----------NOTE---------- Not required to be met until 12 hours after decreasing RCS cold leg temperature to ≤ 235°F (Unit 1), 270°F (Unit 2). ---------- Perform a COT on each required PORV, excluding actuation.	31 days
SR 3.4.12.8	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	18 months

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.12.5

The PORV block valve must be verified open every 72 hours to provide the flow path for each required PORV to perform its function when actuated. The valve may be remotely verified open in the main control room. In addition, the PORV keyswitch must be verified to be in the proper position to provide the appropriated trip setpoints to the PORV actuation logic. This Surveillance is performed if the PORV is used to satisfy the LCO.

The block valve is a remotely controlled, motor operated valve. The power to the valve operator is not required removed, and the manual operator is not required locked in the inactive position. Thus, the block valve can be closed in the event the PORV develops excessive leakage or does not close (sticks open) after relieving an overpressure situation.

The 72 hour Frequency is considered adequate in view of other administrative controls available to the operator in the control room, such as valve position indication and alarms, that verify that the PORV block valve remains open and the keyswitch in the proper position.

SR 3.4.12.6

SR 3.4.12.6 requires verification that the pressure in the PORV backup nitrogen system is sufficient to provide motive force for the PORVs to cope with an overpressure event. The Frequency of 7 days is based on operating experience.

SR 3.4.12.7

Performance of a COT is required within ~~12 hours after decreasing RCS temperature to ≤ 235°F (Unit 1), 270°F (Unit 2) and every 31 days on each required PORV~~ to verify and, as necessary, adjust its lift setpoint. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The COT will

(continued)

31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE. The purpose for the COT is

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.12.7 (continued)

verify the setpoint is within the allowed maximum limits in this specification. PORV actuation could depressurize the RCS and is not required.

The 12 hour Frequency considers the unlikelihood of a low temperature overpressure event during this time.

A Note has been added indicating that this SR is required to be met 12 hours after decreasing RCS cold leg temperature to ≤ 235°F (Unit 1), 270°F (Unit 2). The COT cannot be performed until in the LTOP MODES when the PORV lift setpoint can be reduced to the LTOP setting. The test must be performed within 12 hours after entering the LTOP MODES.

SR 3.4.12.8

Performance of a CHANNEL CALIBRATION on each required PORV actuation channel is required every 18 months to adjust the whole channel so that it responds and the valve opens within the required range and accuracy to known input.

REFERENCES

1. 10 CFR 50, Appendix G.

2. Generic Letter 88-11.

3. UFSAR, Section 5.2.2.2.

4. 10 CFR 50, Section 50.46.

5. Generic Letter 90-06.

Attachment 3

Proposed Unit 1 and Unit 2 Technical Specifications Changes

North Anna Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.4	Verify required RCS vent ≥ 2.07 square inches open.	12 hours for unlocked open vent valve(s) AND 31 days for other vent paths
SR 3.4.12.5	Verify PORV block valve is open for each required PORV and PORV keyswitch is in AUTO.	72 hours
SR 3.4.12.6	Verify required PORV backup nitrogen supply pressure is within limit.	7 days
SR 3.4.12.7	Perform a COT on each required PORV, excluding actuation.	31 days
SR 3.4.12.8	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	18 months

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.12.5

The PORV block valve must be verified open every 72 hours to provide the flow path for each required PORV to perform its function when actuated. The valve may be remotely verified open in the main control room. In addition, the PORV keyswitch must be verified to be in the proper position to provide the appropriated trip setpoints to the PORV actuation logic. This Surveillance is performed if the PORV is used to satisfy the LCO.

The block valve is a remotely controlled, motor operated valve. The power to the valve operator is not required removed, and the manual operator is not required locked in the inactive position. Thus, the block valve can be closed in the event the PORV develops excessive leakage or does not close (sticks open) after relieving an overpressure situation.

The 72 hour Frequency is considered adequate in view of other administrative controls available to the operator in the control room, such as valve position indication and alarms, that verify that the PORV block valve remains open and the keyswitch in the proper position.

SR 3.4.12.6

SR 3.4.12.6 requires verification that the pressure in the PORV backup nitrogen system is sufficient to provide motive force for the PORVs to cope with an overpressure event. The Frequency of 7 days is based on operating experience.

SR 3.4.12.7

The performance of a COT is required within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE. The purpose for the COT is to verify and, as necessary, adjust its lift setpoint. A successful test of the required contact(s) of a channel relay may be performed by the verification of the change of state of a single contact of the relay. This clarifies what is an acceptable CHANNEL OPERATIONAL TEST of a relay. This is acceptable because all of the other required contacts of the relay are verified by other Technical specifications and non-Technical Specifications tests at least once per refueling interval with applicable extensions. The COT will verify the setpoint

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.4.12.7 (continued)

is within the allowed maximum limits in this specification. PORV actuation could depressurize the RCS and is not required.

SR 3.4.12.8

Performance of a CHANNEL CALIBRATION on each required PORV actuation channel is required every 18 months to adjust the whole channel so that it responds and the valve opens within the required range and accuracy to known input.

REFERENCES

1. 10 CFR 50, Appendix G.

2. Generic Letter 88-11.

3. UFSAR, Section 5.2.2.2.

4. 10 CFR 50, Section 50.46.

5. Generic Letter 90-06.

Attachment 4

No Significant Hazards Consideration Determination

North Anna Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

Significant Hazards Consideration Determination

Dominion has reviewed the requirements of 10 CFR 50.92 as they relate to the proposed changes to the North Anna Units 1 and 2 Technical Specifications and determined that a significant hazards consideration is not involved. The proposed changes delete the Note in Surveillance Requirement 3.4.12.7 with supporting Bases that allows a Channel Operational Test (COT) to be performed within 12 hours of entering a Mode in which the power operated relief valves are required to be operable for low temperature overpressure protection (LTOP). With the deletion of the Note, the Technical Specifications will be consistent with the LTOP system design and the original Technical Specification Surveillance Requirement that directed the performance of the channel operational test within 31 days prior to entering a condition in which the PORV is required.

The following is provided to support the conclusion that the proposed changes do not create a significant hazards consideration.

1. **Do changes involve a significant increase in the probability or consequences of an accident previously evaluated?**

   The proposed changes to perform a Channel Operational Test on each required PORV at least 31 days prior to entering the LTOP Mode will continue to ensure verification and adjustment, if required, of its lift setpoint. Changes will not affect the probability of occurrence of any accident previously analyzed; nor alter the design assumptions, conditions, and configuration of the facility or the manner in which the plant is operated and maintained. Therefore, the proposed changes do not involve a significant increase in the consequences of any previously analyzed accident.

2. **Do changes create the possibility of a new or different kind of accident from any accident previously evaluated?**

   The proposed changes to perform a Channel Operational Test on each required PORV at least 31 days prior to entering the LTOP Mode will not create any new accident or event initiators. No systems, structures, or components are being physically modified such that the design function is being altered. The proposed changes do not impose any new or different requirements for the performance of the channel operational test. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from those previously analyzed.

3. Do changes involve a significant reduction in the margin of safety?

The proposed changes do not involve any change to the safety analysis limits. The level of safety of facility operation is unaffected by the proposed changes since there is no change in the intent for the performance of the channel operational test. Therefore, it is concluded that the margin of safety will not be reduced by the implementation of the changes.

Based upon the above, Dominion concludes that the proposed changes present no 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.