VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 12, 2010

10 CFR 50.90

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

Serial No. 10-391
SPS LIC/CGL R1
Docket Nos. 50-280/281
License Nos. DPR-32/37

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNITS 1 AND 2
PROPOSED LICENSE AMENDMENT REQUEST
ADMINISTRATIVE CHANGES TO TECHNICAL SPECIFICATIONS 3.12 AND 6.2

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests amendments, in the form of changes to the Technical Specifications (TS) to Facility Operating License Numbers DPR-32 and DPR-37, for Surry Power Station Units 1 and 2, respectively. The proposed revision is an administrative change that: 1) corrects an error in TS 3.12.E.5, 2) deletes duplicative requirements in TS 3.12.E.2 and TS 3.12.E.4, 3) relocates the shutdown margin value in TS 3.12 and the TS 3.12 Basis to the Core Operating Limits Report (COLR), and 4) expands the TS 6.2 list of parameters defined in the COLR. The TS 3.12 Basis revision is included for the NRC's information.

A discussion of the proposed change is provided in Attachment 1. The marked-up and typed proposed TS and TS Basis are provided in Attachments 2 and 3, respectively. Note that two of the affected pages for this request also have proposed revisions associated with an LAR submitted to the NRC by an October 16, 2009 letter (Serial No. 09-581). The mark-ups for this request are provided on marked up pages excerpted from our October 16, 2009 LAR. The marked up and proposed pages based on the October 16, 2009 letter are provided in Attachment 4.

We have evaluated the proposed change and have determined that it does not involve a significant hazards consideration as defined in 10 CFR 50.92. The basis for this determination is included in Attachment 1. We have also determined that operation with the proposed change will not result in any significant increase in the amount of effluents that may be released offsite or any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment is eligible for categorical exclusion from an environmental assessment as forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change. The proposed change has been reviewed and approved by the Facility Safety Review Committee.

Dominion requests approval of the proposed change by July 29, 2011 with a 30-day implementation period.

If you have any questions or require additional information, please contact Mr. Gary D. Miller at (804) 273-2771.

Very truly yours,

L. N. Hartz
Vice President – Nuclear Support Services

Attachments:
1. Discussion of Change
2. Proposed Technical Specifications Pages (Mark-up)
3. Proposed Technical Specifications Pages (Typed)
4. Marked-up and Proposed Technical Specifications Pages based on Excerpt from Dominion Letter dated October 16, 2009 (Serial No. 09-581)

Commitments made in this letter: None

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 Support Services, 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 her knowledge and belief.

Acknowledged before me this 12th day of July, 2010.

My Commission Expires: 4/30/13.

Notary Public

GINGER LYNN MELTON
Notary Public
Commonwealth of Virginia
310847
My Commission Expires Apr 30, 2013

I was commissioned a notary public as Ginger L. Oakwood.

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ATTACHMENT 1

DISCUSSION OF CHANGE

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNITS 1 AND 2

DISCUSSION OF CHANGE

1.0 INTRODUCTION

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests a revision to the Technical Specifications (TS) for Surry Power Station Units 1 and 2. The proposed revision is an administrative change that corrects an error in TS 3.12.E.5, deletes duplicative TS requirements in TS 3.12.E.2 and TS 3.12.E.4, relocates the shutdown margin value in TS 3.12 and in the TS 3.12 Basis to the Core Operating Limits Report (COLR), and expands the TS 6.2 list of parameters defined in the COLR. The TS 3.12 Basis revision is included for the NRC's information.

The proposed change has been reviewed, and it has been determined that the change has no adverse safety impact and that no significant hazards consideration exists as defined in 10 CFR 50.92. In addition, it has been determined that the change qualifies for categorical exclusion from an environmental assessment as set forth in 10 CFR 51.22(c)(9); therefore, no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change.

2.0 BACKGROUND AND PROPOSED CHANGES

On June 9, 2008, Dominion transmitted a letter (Serial No. 08-0310) requesting NRC review and approval of a License Amendment Request (LAR) revising action statements in TS 3.12 for control rod insertion limit and shutdown margin requirements, revising the applicability for the operability of the Rod Position Indication and Bank Demand Position Indication Systems, revising/adding action statements for rod position indication, and adding action statements for group step demand counters. The LAR in our June 9, 2008 letter was subsequently approved by the NRC by License Amendments 265/264 on June 25, 2009. As detailed in the following paragraphs, the proposed change to TS 3.12 is necessary to correct an error, to delete duplicative TS requirements addressing actions to be taken for rod movement in excess of 24 steps, and to relocate the shutdown margin value in TS 3.12 and in the TS 3.12 Basis to the Core Operating Limits Report (COLR) consistent with TS 3.12.G in License Amendments 265/264. The proposed change also expands the TS 6.2.C list of parameters defined in the COLR for completeness.

Note that two of the affected pages for this request also have proposed revisions associated with a separate LAR submitted to the NRC by an October 16, 2009 letter (Serial No. 09-581). The mark-ups for this request are provided on marked up pages excerpted from our October 16, 2009 LAR. The marked up and proposed pages based on the October 16, 2009 letter are provided in Attachment 4.

Correction of Text Error in TS 3.12.E.5

Dominion's June 9, 2008 letter proposed (and License Amendments 265/264 approved) the addition of TS 3.12.E.5 to include action statements for group step demand counter inoperability. TS 3.12.E.5 currently states the following:

5. If one group step demand counter per bank for more than one or more banks is inoperable, verify that all rod position indicators for the affected bank(s) are OPERABLE once per 8 hours and verify that the most withdrawn rod and the least withdrawn rod of the affected bank(s) are less than or equal to 12 steps apart once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours.

During preparations to implement License Amendments 265/264 (i.e., Licensed Operator Requalification Program (LORP) classroom training), the TS 3.12.E.5 wording of "for more than one or more banks" was questioned, and it was identified that an error existed in the issued amendment. The words "more than" were inadvertently included in the proposed TS wording and subsequently included in the issued license amendment; however, the words "more than" should not have been included in TS 3.12.E.5. The TS 3.12.E.5 wording should instead read "If one group step demand counter per bank for one or more banks is inoperable, . . ."

NRC Administrative Letter (AL) 98-10 addresses improper or inadequate TS requirements and states that imposition of administrative controls is an acceptable short-term corrective action in response to an improper or inadequate TS. Consistent with this guidance in AL 98-10, administrative controls were developed to correct the error. The administrative controls were implemented along with License Amendments 265/264 on August 19, 2009. One of the items being addressed in this LAR is to correct the error identified in TS 3.12.E.5 by deleting the words "more than". The revised TS 3.12.E.5 proposed in this change reads as follows:

5. If one group step demand counter per bank for one or more banks is inoperable, verify that all rod position indicators for the affected bank(s) are OPERABLE once per 8 hours and verify that the most withdrawn rod and the least withdrawn rod of the affected bank(s) are less than or equal to 12 steps apart once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours.

The revised words in TS 3.12.E.5 are consistent with TS 3.1.7.D in NUREG-1431 for the Improved Standard Technical Specifications.

Deletion of Duplicative TS Requirements

The June 9, 2008 letter proposed (and License Amendments 265/264 approved) the revision of TS 3.12.E.2 and the addition of TS 3.12.E.4. TS 3.12.E.2 and TS 3.12.E.4 currently state the following:

2. If one rod position indicator per group for one or more groups is inoperable, the position of the control rod assembly shall be verified indirectly using the movable incore detectors at least once per 8 hours and immediately after any motion of the non-indicating control rod assembly exceeding 24 steps. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours. During operations below 50% of RATED POWER, no special monitoring is required.

4. If one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position, verify the position of the control rod assemblies indirectly using the movable incore detectors within 4 hours or reduce power to less than 50% of RATED POWER within 8 hours.

Subsequent to the LORP classroom training and during procedure revision validation prior to implementation of License Amendments 265/264, it was recognized that the revised TS 3.12.E.2 and the new TS 3.12.E.4 both include actions to be taken for rod movement in excess of 24 steps. Specifically, verification of the position of the control rod assembly indirectly using the movable incore detectors is required immediately in TS 3.12.E.2 versus within 4 hours in TS 3.12.E.4. Although the TS wording varies between the current TS 3.12.E.2 and TS 3.12.E.4, the two TS are not considered conflicting. The 4-hour completion time of TS 3.12.E.4 is considered to provide clarification and amplification of the immediate action in TS 3.12.E.2 since initiation of verification of control rod assembly position using the movable incore detectors would commence immediately (e.g., the required action should be pursued without delay and in a controlled manner) and would be completed within 4 hours. Since the requirements of TS 3.12.E.2 and TS 3.12.E.4 are duplicative, they were also addressed in the administrative controls put in place in accordance with AL 98-10 to address the TS 3.12.E.5 typographical error. The proposed resolution of these duplicative requirements is to delete the phrase "and immediately after any motion of the non-indicating control rod assembly exceeding 24 steps" in TS 3.12.E.2. The revised TS 3.12.E.2 proposed in this change would read as follows:

2. If one rod position indicator per group for one or more groups is inoperable, the position of the control rod assembly shall be verified indirectly using the movable incore detectors at least once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours. During operations below 50% of RATED POWER, no special monitoring is required.

The proposed TS 3.12.E.2 and the existing TS 3.12.E.4 are consistent with TS 3.1.7.A and TS 3.1.7.C, respectively, in NUREG-1431 for the Improved Standard Technical Specifications.

Relocation of Shutdown Margin Value to the Core Operating Limits Report

License Amendments 265/264 approved the addition of TS 3.12.G for shutdown margin. TS 3.12.G states that the shutdown margin shall be within the limits specified in the CORE OPERATING LIMITS REPORT. For consistency with the reference in TS 3.12.G to the COLR for the shutdown margin limits, the references to the required shutdown margin reactivity value in TS 3.12.A.3.c and the second paragraph in the TS 3.12 Basis are being revised to also state that the shutdown margin shall be within the limits specified in the COLR.

The proposed revision to TS 3.12.A.3.c is noted by the following bold and bold strikeout text:

> c. The shutdown margin with allowance for a stuck control rod assembly shall be ~~**greater than or equal to 1.77% reactivity**~~ **within the limits specified in the CORE OPERATING LIMITS REPORT**. . .

The proposed revision to the second paragraph in the TS 3.12 Basis, which is included for the NRC's information, is noted by the following bold and bold strikeout text:

> The maximum shutdown margin requirement occurs at the end of core life and is based on the value used in the analyses of the hypothetical steam break accident. The control rod assembly insertion limits are based on end of core life conditions. The shutdown margin for the entire cycle length ~~**is established at 1.77% reactivity**~~ **shall be within the limits specified in the CORE OPERATING LIMITS REPORT**. . . .

Expansion of the List of Parameters Defined in the COLR

For completeness and consistency with TSTF-339-A Revision 2, this proposed administrative change also expands the TS 6.2.C list of parameters defined in the COLR. Item 2 for Control Bank Insertion Limits is being revised, and a new Item 4 for Shutdown Margin is being added. The revisions to TS 6.2.C are noted by the following bold text:

2. **TS 3.12.A.1,** TS 3.12.A.2 and TS 3.12.A.3 – Control Bank Insertion Limits

4. **TS 3.12.A.1.a, TS 3.12.A.2.a, TS 3.12.A.3.c and TS 3.12.G – Shutdown Margin**

3.0 EVALUATION OF PROPOSED CHANGES

As indicated in the discussion above, the proposed change is administrative in nature and is necessary to correct an error, delete duplicative TS requirements, relocate the

shutdown margin value to the Core Operating Limits Report (COLR), and expand the list of parameters defined in the COLR for completeness. Upon implementation of the proposed change , the administrative controls previously put in place to address the error in the TS 3.12.E.5 wording and the duplicative requirements in TS 3.12.E.2 and TS 3.12.E.4 will be deleted.

4.0 SIGNIFICANT HAZARDS CONSIDERATION

Virginia Electric and Power Company (Dominion) is proposing a change to the Technical Specifications (TS) for Surry Power Station Units 1 and 2. The proposed revisions, which are administrative in nature, are necessary to correct an error in TS 3.12.E.5, to delete duplicative TS requirements in TS 3.12.E.2 and TS 3.12.E.4 addressing actions to be taken for rod movement in excess of 24 steps, to relocate the shutdown margin value in TS 3.12 and in the TS 3.12 Basis to the Core Operating Limits Report (COLR), and to expand the TS 6.2 list of parameters defined in the COLR for completeness. Upon discovery that an error and duplicative requirements existed in a June 9, 2008 License Amendment Request (LAR) that was approved by License Amendments 265/264, administrative controls were put in place to address these items in accordance with NRC Administrative Letter 98-10.

Dominion has reviewed the requirements of 10 CFR 50.92 as they relate to the proposed change to the Surry Power Station Units 1 and 2 TS and has determined that a significant hazards consideration does not exist. The basis for this determination is provided as follows:

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

   No. The proposed change is administrative in nature. The proposed LAR does not involve a physical change to any structures, systems, or components (SSCs) at Surry Power Station; nor does it change any of the previously evaluated accidents in the Updated Final Safety Analysis Report (UFSAR). Thus, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   No. The proposed change is administrative in nature. The proposed change does not involve a physical change to any SSCs, and there is no impact on their design function. The proposed change does not affect initiators of analyzed events. Therefore, the proposed change does not introduce any new failures that could 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?

   No. The proposed change is administrative in nature. Margin of safety is established through the design of plant SSCs, the parameters within which the plant is operated, and the establishment of the setpoints for the actuation of equipment relied upon to respond to an event. The proposed change does not impact the condition or performance of SSCs relied upon for accident mitigation or any safety analysis assumptions. Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

5.0 ENVIRONMENTAL ASSESSMENT

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) as follows:

(i) The amendment involves no significant hazards consideration.

   As described above, the proposed LAR does not involve a significant hazards consideration.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

   The proposed LAR does not involve the installation of any new equipment or a physical change to any structures, systems, or components (SSCs) at Surry Power Station. Therefore, there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

   The proposed LAR does not involve plant physical changes and does not require any changes to current plant operation. Therefore, there is no significant increase in individual or cumulative occupational radiation exposure.

Based on the above assessment, Dominion concludes that the proposed LAR meets the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.22 relative to requiring a specific environmental assessment or impact statement by the Commission.

6.0 CONCLUSION

The proposed change, which is administrative in nature, is necessary to correct an error, delete duplicative TS requirements, relocate the shutdown margin value to the Core Operating Limits Report (COLR), and expand the list of parameters defined in the COLR for completeness.

The proposed LAR does not involve the installation of any new equipment or a physical change to any SSCs at Surry Power Station and does not impact any SSC design function. In addition, the proposed change does not affect initiators of analyzed events, does not impact the condition or performance of SSCs relied upon for accident mitigation, and does not impact any safety analysis assumptions.

The Facility Safety Review Committee (FSRC) has reviewed the proposed change, and it has been concluded that this change does not have an adverse impact on safety, does not involve a significant hazards consideration, and will not endanger the health and safety of the public.

7.0 REFERENCES

1. Letter from Gerald T. Bischof (VEPCO) to USNRC, "Virginia Electric and Power Company, Surry Power Station Units 1 and 2, Proposed License Amendment Request, Revision of Technical Specification 3.12," dated June 9, 2008 (Dominion Serial No.08-0310).

2. Letter from John Stang (USNRC) to David A. Heacock (VEPCO), "Surry Power Station, Unit Nos. 1 and 2, Issuance of Amendments Regarding Rod Position and Bank Demand Position Indication Systems (TAC Nos. MD8925 and MD8926," dated June 25, 2009.

3. Letter from J. Alan Price (VEPCO) to USNRC, "Virginia Electric and Power Company, Surry Power Station Units 1 and 2, Proposed License Amendment Request, Relocation of Core Operating Limits to the Core Operating Limits Report (COLR) and Addition of COLR References," dated October 16, 2009 (Dominion Serial No.09-581).

ATTACHMENT 2

PROPOSED TECHNICAL SPECIFICATIONS PAGES (MARK-UP)

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNITS 1 AND 2

a. The sequence of withdrawal of the control banks, when going from zero to 100% power, is A, B, C, D.

b. An overlap of control banks, consistent with physics calculations and physics data obtained during unit startup and subsequent operation, will be permitted.

c. The shutdown margin with allowance for a stuck control rod assembly shall be ~~greater than or equal to 1.77% reactivity~~ within the limits specified in the CORE OPERATING LIMITS REPORT under all steady-state operation conditions, except for physics tests, from zero to full power, including effects of axial power distribution. The shutdown margin as used here is defined as the amount by which the reactor core would be subcritical at HOT SHUTDOWN ($T_{avg} \geq 547°F$) if all control rod assemblies were tripped, assuming that the highest worth control rod assembly remained fully withdrawn, and assuming no changes in xenon or boron.

4. Whenever the reactor is subcritical, except for physics tests, the critical control rod assembly position, i.e., the control rod assembly position at which criticality would be achieved if the control rod assemblies were withdrawn in normal sequence with no other reactivity changes, shall not be lower than the insertion limit for zero power.

5. Insertion limits do not apply during physics tests or during periodic surveillance testing of control rod assemblies. However, the shutdown margin indicated above must be maintained except for the LOW POWER PHYSICS TEST to measure control and shutdown bank worth and shutdown margin. For this test the reactor may be critical with all but one full length control rod assembly, expected to have the highest worth, inserted.

6. With a maximum of one control or shutdown bank inserted beyond the insertion limit specified in Specification 3.12.A.2 during control rod assembly testing pursuant to Specification 4.1, and immovable due to a failure of the Rod Control System, POWER OPERATION

E. Rod Position Indication System and Bank Demand Position Indication System

1. From movement of control banks to achieve criticality and with the REACTOR CRITICAL, rod position indication shall be provided as follows:

   a. Above 50% power, the Rod Position Indication System shall be OPERABLE and capable of determining the control rod assembly positions to within ± 12 steps of their respective group step demand counter indications.

   b. From movement of control banks to achieve criticality up to 50% power, the Rod Position Indication System shall be OPERABLE and capable of determining the control rod assembly positions to within ± 24 steps of their respective group step demand counter indications for a maximum of one hour out of twenty-four, and to within ± 12 steps otherwise.

   c. From movement of control banks to achieve criticality and with the REACTOR CRITICAL, the Bank Demand Position Indication System shall be OPERABLE and capable of determining the group demand positions to within ± 2 steps.

2. If one rod position indicator per group for one or more groups is inoperable, the position of the control rod assembly shall be verified indirectly using the movable incore detectors at least once per 8 hours~~, and immediately after any motion of the non-indicating control rod assembly exceeding 24 steps.~~ Alternatively, reduce power to less than 50% of RATED POWER within 8 hours. During operations below 50% of RATED POWER, no special monitoring is required.

3. If more than one rod position indicator per group is inoperable, place the control rods under manual control immediately, monitor and record RCS T_{avg} once per hour, verify the position of the control rod assemblies indirectly using the movable incore detectors at least once per 8 hours, and restore inoperable position indicators to OPERABLE status such that a maximum of one position indicator per group is inoperable within 24 hours.

4. If one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position, verify the position of the control rod assemblies indirectly using the movable incore detectors within 4 hours or reduce power to less than 50% of RATED POWER within 8 hours.

5. If one group step demand counter per bank for ~~more than~~ one or more banks is inoperable, verify that all rod position indicators for the affected bank(s) are OPERABLE once per 8 hours and verify that the most withdrawn rod and the least withdrawn rod of the affected bank(s) are less than or equal to 12 steps apart once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours.

6. If the requirements of Specification 3.12.E.2, 3.12.E.3, 3.12.E.4, or 3.12.E.5 are not satisfied, then the unit shall be placed in HOT SHUTDOWN within 6 hours.

F. DNB Parameters

1. The following DNB related parameters shall be maintained within their limits during POWER OPERATION:

   - Reactor Coolant System $T_{avg} \leq 577.0°F$
   - Pressurizer Pressure $\geq$ 2205 psig
   - Reactor Coolant System Total Flow Rate $\geq$ 273,000 gpm

   a. The Reactor Coolant System T_{avg} and Pressurizer Pressure shall be verified to

Basis

The reactivity control concept assumed for operation is that reactivity changes accompanying changes in reactor power are compensated by control rod assembly motion. Reactivity changes associated with xenon, samarium, fuel depletion, and large changes in reactor coolant temperature (operating temperature to COLD SHUTDOWN) are compensated for by changes in the soluble boron concentration. During POWER OPERATION, the shutdown control rod assemblies are fully withdrawn and control of power is by the control banks. A reactor trip occurring during POWER OPERATION will place the reactor into HOT SHUTDOWN. The control rod assembly insertion limits provide for achieving HOT SHUTDOWN by reactor trip at any time, assuming the highest worth control rod assembly remains fully withdrawn, with sufficient margins to meet the assumptions used in the accident analysis. In addition, they provide a limit on the maximum inserted control rod assembly worth in the unlikely event of a hypothetical assembly ejection and provide for acceptable nuclear peaking factors. The limit may be determined on the basis of unit startup and operating data to provide a more realistic limit which will allow for more flexibility in unit operation and still assure compliance with the shutdown requirement.

The maximum shutdown margin requirement occurs at end of core life and is based on the value used in the analyses of the hypothetical steam break accident. The control rod assembly insertion limits are based on end of core life conditions. The shutdown margin for the entire cycle length is ~~established at 1.77% reactivity.~~ Other accident analyses with the exception of the Chemical and Volume Control System malfunction analyses are based on 1% reactivity shutdown margin. Relative positions of control banks are determined by a specified control bank overlap. This overlap is based on the consideration of axial power shape control. The specified control rod assembly insertion limits have been established to limit the potential ejected control rod assembly worth in order to account for the effects of fuel densification. The various control rod assemblies (shutdown banks, control banks A, B, C, and D) are each to be moved as a bank; that is, with each assembly in the bank within one step (5/8 inch) of the bank position.

shall be within the limits specified in the CORE OPERATING LIMITS REPORT.

The axial position of shutdown rods and control rods are determined by two separate and independent systems: the Bank Demand Position Indication System (commonly called the group step demand counters) and the Rod Position Indication System.

The Bank Demand Position Indication System counts the pulses from the Rod Control System that move the rods. There is one group step demand counter for each group of rods. Individual

6.2 GENERAL NOTIFICATION AND REPORTING REQUIREMENTS

Specification

A. The following action shall be taken for Reportable Events:

A report shall be submitted pursuant to the requirements of Section 50.73 to 10 CFR.

B. Immediate notifications shall be made in accordance with Section 50.72 to 10 CFR.

C. CORE OPERATING LIMITS REPORT

Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. Parameter limits for the following Technical Specifications are defined in the CORE OPERATING LIMITS REPORT:

1. TS 3.1.E - Moderator Temperature Coefficient
2. TS 3.12.A.1, TS 3.12.A.2 and TS 3.12.A.3 - Control Bank Insertion Limits
3. TS 3.12.B.1 and TS 3.12.B.2 - Power Distribution Limits
4. TS 3.12.A.1.a, TS 3.12.A.2.a, TS 3.12.A.3.c and TS 3.12.G – Shutdown Margin

ATTACHMENT 3

PROPOSED TECHNICAL SPECIFICATIONS PAGES (TYPED)

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNITS 1 AND 2

a. The sequence of withdrawal of the control banks, when going from zero to 100% power, is A, B, C, D.

b. An overlap of control banks, consistent with physics calculations and physics data obtained during unit startup and subsequent operation, will be permitted.

c. The shutdown margin with allowance for a stuck control rod assembly shall be within the limits specified in the CORE OPERATING LIMITS REPORT under all steady-state operation conditions, except for physics tests, from zero to full power, including effects of axial power distribution. The shutdown margin as used here is defined as the amount by which the reactor core would be subcritical at HOT SHUTDOWN ($T_{avg} \geq 547°F$) if all control rod assemblies were tripped, assuming that the highest worth control rod assembly remained fully withdrawn, and assuming no changes in xenon or boron.

4. Whenever the reactor is subcritical, except for physics tests, the critical control rod assembly position, i.e., the control rod assembly position at which criticality would be achieved if the control rod assemblies were withdrawn in normal sequence with no other reactivity changes, shall not be lower than the insertion limit for zero power.

5. Insertion limits do not apply during physics tests or during periodic surveillance testing of control rod assemblies. However, the shutdown margin indicated above must be maintained except for the LOW POWER PHYSICS TEST to measure control and shutdown bank worth and shutdown margin. For this test the reactor may be critical with all but one full length control rod assembly, expected to have the highest worth, inserted.

6. With a maximum of one control or shutdown bank inserted beyond the insertion limit specified in Specification 3.12.A.2 during control rod assembly testing pursuant to Specification 4.1, and immovable due to a failure of the Rod Control System, POWER OPERATION

E. Rod Position Indication System and Bank Demand Position Indication System

1. From movement of control banks to achieve criticality and with the REACTOR CRITICAL, rod position indication shall be provided as follows:

   a. Above 50% power, the Rod Position Indication System shall be OPERABLE and capable of determining the control rod assembly positions to within ± 12 steps of their respective group step demand counter indications.

   b. From movement of control banks to achieve criticality up to 50% power, the Rod Position Indication System shall be OPERABLE and capable of determining the control rod assembly positions to within ± 24 steps of their respective group step demand counter indications for a maximum of one hour out of twenty-four, and to within ± 12 steps otherwise.

   c. From movement of control banks to achieve criticality and with the REACTOR CRITICAL, the Bank Demand Position Indication System shall be OPERABLE and capable of determining the group demand positions to within ± 2 steps.

2. If one rod position indicator per group for one or more groups is inoperable, the position of the control rod assembly shall be verified indirectly using the movable incore detectors at least once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours. During operations below 50% of RATED POWER, no special monitoring is required.

3. If more than one rod position indicator per group is inoperable, place the control rods under manual control immediately, monitor and record RCS T_{avg} once per hour, verify the position of the control rod assemblies indirectly using the movable incore detectors at least once per 8 hours, and restore inoperable position indicators to OPERABLE status such that a maximum of one position indicator per group is inoperable within 24 hours.

4. If one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position, verify the position of the control rod assemblies indirectly using the movable incore detectors within 4 hours or reduce power to less than 50% of RATED POWER within 8 hours.

5. If one group step demand counter per bank for one or more banks is inoperable, verify that all rod position indicators for the affected bank(s) are OPERABLE once per 8 hours and verify that the most withdrawn rod and the least withdrawn rod of the affected bank(s) are less than or equal to 12 steps apart once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours.

6. If the requirements of Specification 3.12.E.2, 3.12.E.3, 3.12.E.4, or 3.12.E.5 are not satisfied, then the unit shall be placed in HOT SHUTDOWN within 6 hours.

F. DNB Parameters

1. The following DNB related parameters shall be maintained within their limits during POWER OPERATION:

   - Reactor Coolant System $T_{avg} \leq 577.0°F$
   - Pressurizer Pressure $\geq$ 2205 psig
   - Reactor Coolant System Total Flow Rate $\geq$ 273,000 gpm

   a. The Reactor Coolant System T_{avg} and Pressurizer Pressure shall be verified to

Basis

The reactivity control concept assumed for operation is that reactivity changes accompanying changes in reactor power are compensated by control rod assembly motion. Reactivity changes associated with xenon, samarium, fuel depletion, and large changes in reactor coolant temperature (operating temperature to COLD SHUTDOWN) are compensated for by changes in the soluble boron concentration. During POWER OPERATION, the shutdown control rod assemblies are fully withdrawn and control of power is by the control banks. A reactor trip occurring during POWER OPERATION will place the reactor into HOT SHUTDOWN. The control rod assembly insertion limits provide for achieving HOT SHUTDOWN by reactor trip at any time, assuming the highest worth control rod assembly remains fully withdrawn, with sufficient margins to meet the assumptions used in the accident analysis. In addition, they provide a limit on the maximum inserted control rod assembly worth in the unlikely event of a hypothetical assembly ejection and provide for acceptable nuclear peaking factors. The limit may be determined on the basis of unit startup and operating data to provide a more realistic limit which will allow for more flexibility in unit operation and still assure compliance with the shutdown requirement.

The maximum shutdown margin requirement occurs at end of core life and is based on the value used in the analyses of the hypothetical steam break accident. The control rod assembly insertion limits are based on end of core life conditions. The shutdown margin for the entire cycle length shall be within the limits specified in the CORE OPERATING LIMITS REPORT. Other accident analyses with the exception of the Chemical and Volume Control System malfunction analyses are based on 1% reactivity shutdown margin. Relative positions of control banks are determined by a specified control bank overlap. This overlap is based on the consideration of axial power shape control. The specified control rod assembly insertion limits have been established to limit the potential ejected control rod assembly worth in order to account for the effects of fuel densification. The various control rod assemblies (shutdown banks, control banks A, B, C, and D) are each to be moved as a bank; that is, with each assembly in the bank within one step (5/8 inch) of the bank position.

The axial position of shutdown rods and control rods are determined by two separate and independent systems: the Bank Demand Position Indication System (commonly called the group step demand counters) and the Rod Position Indication System.

The Bank Demand Position Indication System counts the pulses from the Rod Control System that move the rods. There is one group step demand counter for each group of rods. Individual

6.2 GENERAL NOTIFICATION AND REPORTING REQUIREMENTS

Specification

A. The following action shall be taken for Reportable Events:

A report shall be submitted pursuant to the requirements of Section 50.73 to 10 CFR.

B. Immediate notifications shall be made in accordance with Section 50.72 to 10 CFR.

C. CORE OPERATING LIMITS REPORT

Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. Parameter limits for the following Technical Specifications are defined in the CORE OPERATING LIMITS REPORT:

1. TS 3.1.E - Moderator Temperature Coefficient
2. TS 3.12.A.1, TS 3.12.A.2 and TS 3.12.A.3 - Control Bank Insertion Limits |
3. TS 3.12.B.1 and TS 3.12.B.2 - Power Distribution Limits
4. TS 3.12.A.1.a, TS 3.12.A.2.a, TS 3.12.A.3.c and TS 3.12.G - Shutdown Margin |

ATTACHMENT 4

MARKED-UP AND PROPOSED TECHNICAL SPECIFICATIONS PAGES BASED ON EXCERPT FROM DOMINION LETTER DATED OCTOBER 16, 2009 (SERIAL NO. 09-581)

NOTE: CHANGES NOTED WITH DOUBLE REVISION BARS ARE FROM LETTER SERIAL NO. 09-581, DATED OCTOBER 16, 2009

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY POWER STATION UNITS 1 AND 2

EXCERPTED FROM SERIAL NO. 09-581, DATED 10/16/2009

3. If more than one rod position indicator per group is inoperable, place the control rods under manual control immediately, monitor and record RCS T_{avg} once per hour, verify the position of the control rod assemblies indirectly using the movable incore detectors at least once per 8 hours, and restore inoperable position indicators to OPERABLE status such that a maximum of one position indicator per group is inoperable within 24 hours.

4. If one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position, verify the position of the control rod assemblies indirectly using the movable incore detectors within 4 hours or reduce power to less than 50% of RATED POWER within 8 hours.

5. If one group step demand counter per bank for ~~more than~~ one or more banks is inoperable, verify that all rod position indicators for the affected bank(s) are OPERABLE once per 8 hours and verify that the most withdrawn rod and the least withdrawn rod of the affected bank(s) are less than or equal to 12 steps apart once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours.

6. If the requirements of Specification 3.12.E.2, 3.12.E.3, 3.12.E.4, or 3.12.E.5 are not satisfied, then the unit shall be placed in HOT SHUTDOWN within 6 hours.

F. DNB Parameters

1. The following DNB related parameters shall be maintained within their limits during POWER OPERATION: the limit specified in the CORE OPERATING LIMITS REPORT

   - Reactor Coolant System $T_{avg} \leq$ ~~577.0°F~~ ← Insert
   - Pressurizer Pressure $\geq$ ~~2205 psig~~ ← and $\geq$ the limit specified in the CORE OPERATING LIMITS REPORT
   - Reactor Coolant System Total Flow Rate $\geq$ 273,000 gpm ← Insert

   a. The Reactor Coolant System T_{avg} ~~and Pressurizer Pressure~~ shall be verified to , Pressurizer Pressure, and Reactor Coolant System Total Flow Rate ↑ Insert

EXCERPTED FROM SERIAL NO. 09-581, DATED 10/16/2009

6.2 GENERAL NOTIFICATION AND REPORTING REQUIREMENTS

Specification

A. The following action shall be taken for Reportable Events:

A report shall be submitted pursuant to the requirements of Section 50.73 to 10 CFR.

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C. CORE OPERATING LIMITS REPORT

Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. Parameter limits for the following Technical Specifications are defined in the CORE OPERATING LIMITS REPORT:

1. TS 3.1.E - Moderator Temperature Coefficient

TS 3.12.A.1,

2. TS 3.12.A.2 and TS 3.12.A.3 - Control Bank Insertion Limits

3. TS 3.12.B.1 and TS 3.12.B.2 - Power Distribution Limits

Insert 9

Insert 9

4. TS 3.12.F – DNB Parameters
5. TS 2.1 – Safety Limit, Reactor Core
6. TS 2.3.A.2.d – Overtemperature ΔT
7. TS 2.3.A.2.e – Overpower ΔT
8. TS Table 4.1-2A – Minimum Frequency for Equipment Tests: Item 22 – RCS Flow
9. TS 3.12.A.1.a, TS 3.12.A.2.a, TS 3.12.A.3.C and TS 3.12.G – Shutdown Margin

3. If more than one rod position indicator per group is inoperable, place the control rods under manual control immediately, monitor and record RCS T_{avg} once per hour, verify the position of the control rod assemblies indirectly using the movable incore detectors at least once per 8 hours, and restore inoperable position indicators to OPERABLE status such that a maximum of one position indicator per group is inoperable within 24 hours.

4. If one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position, verify the position of the control rod assemblies indirectly using the movable incore detectors within 4 hours or reduce power to less than 50% of RATED POWER within 8 hours.

5. If one group step demand counter per bank for one or more banks is inoperable, verify that all rod position indicators for the affected bank(s) are OPERABLE once per 8 hours and verify that the most withdrawn rod and the least withdrawn rod of the affected bank(s) are less than or equal to 12 steps apart once per 8 hours. Alternatively, reduce power to less than 50% of RATED POWER within 8 hours.

6. If the requirements of Specification 3.12.E.2, 3.12.E.3, 3.12.E.4, or 3.12.E.5 are not satisfied, then the unit shall be placed in HOT SHUTDOWN within 6 hours.

F. DNB Parameters

1. The following DNB related parameters shall be maintained within their limits during POWER OPERATION:

   - Reactor Coolant System $T_{avg} \leq$ the limit specified in the CORE OPERATING LIMITS REPORT
   - Pressurizer Pressure $\geq$ the limit specified in the CORE OPERATING LIMITS REPORT
   - Reactor Coolant System Total Flow Rate $\geq$ 273,000 gpm and $\geq$ the limit specified in the CORE OPERATING LIMITS REPORT

   a. The Reactor Coolant System T_{avg}, Pressurizer Pressure, and Reactor Coolant System Total Flow Rate shall be verified to

6.2. GENERAL NOTIFICATION AND REPORTING REQUIREMENTS

Specification

A. The following action shall be taken for Reportable Events:

A report shall be submitted pursuant to the requirements of Section 50.73 to 10 CFR.

B. Immediate notifications shall be made in accordance with Section 50.72 to 10 CFR.

C. CORE OPERATING LIMITS REPORT

Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. Parameter limits for the following Technical Specifications are defined in the CORE OPERATING LIMITS REPORT:

1. TS 3.1.E - Moderator Temperature Coefficient
2. TS 3.12.A.1, TS 3.12.A.2 and TS 3.12.A.3 - Control Bank Insertion Limits
3. TS 3.12.B.1 and TS 3.12.B.2 - Power Distribution Limits
4. TS 3.12.F - DNB Parameters
5. TS 2.1 - Safety Limit, Reactor Core
6. TS 2.3.A.2.d - Overtemperature ΔT
7. TS 2.3.A.2.e - Overpower ΔT
8. TS Table 4.1-2A - Minimum Frequency for Equipment Tests: Item 22 - RCS Flow
9. TS 3.12.A.1.a, TS 3.12.A.2.a, TS 3.12.A.3.c and TS 3.12.G - Shutdown Margin