VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261
December 3, 2001

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

Serial No.: 01- 645
CM/RAB R0
Docket Nos.: 50-338
50-339
License Nos.: NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
PROPOSED IMPROVED TECHNICAL SPECIFICATIONS
REQUEST FOR ADDITIONAL INFORMATION (RAI)
SECTION 3.7, "PLANT SYSTEMS" (TAC Nos. MB 0799 and MB 0800)

This letter transmits our response to the NRC's request for additional information (RAI) regarding the North Anna Power Station (NAPS) Units 1 and 2 proposed Improved Technical Specifications (ITS). The North Anna ITS license amendment request was submitted to the NRC in a December 11, 2000 letter (Serial No. 00-606). The NRC requested additional information regarding ITS 3.7, "Plant Systems, " in a NRC letter dated October 10, 2001 (TAC Nos. MB 0799 and MB 0800). This letter also transmits minor changes to ITS Section 3.7, which are a result of internal comments.

The attachment includes each NRC question on ITS 3.7, the response to each question, and the required revisions to the original ITS license amendment request, based on the response to each question. Following the responses to the NRC's questions is a summary of the changes that are not associated with the NRC's questions, and the affected ITS submittal pages.

Additionally, the attachment includes an additional response to RAI 3.2.1-1, which was discussed with members of your staff in a telephone conversation on November 9, 2001.

If you have any further questions or require additional information, please contact us.

Very truly yours,

Leslie N. Hartz
Vice President - Nuclear Engineering

Attachment

Commitments made in this letter: None

A001

Rec'd 01/23/02

cc: U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Suite 23T85
Atlanta, Georgia 30303-8931

Mr. Tommy Le
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 12 H4
Rockville, MD 20852-2738

Mr. M. J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

Commissioner (w/o attachments)
Bureau of Radiological Health
1500 East Main Street
Suite 240
Richmond, VA 23218

Mr. J. E. Reasor, Jr. (w/o attachments)
Old Dominion Electric Cooperative
Innsbrook Corporate Center
4201 Dominion Blvd.
Suite 300
Glen Allen, Virginia 23060

SN: 01-645
Docket Nos.: 50-338/339
Subject: ITS RAI – Section 3.7

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 her knowledge and belief.

Acknowledged before me this 3rd day of December, 2001.

My Commission Expires: March 3, 2004.

Maggie McClure
Notary Public

(SEAL)

Attachment

Proposed Improved Technical Specifications
Responses to Requests for Additional Information
ITS 3.7, "Plant Systems"

Virginia Electric and Power Company
(Dominion)

North Anna Power Station Units 1 and 2

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7-1

Discussion of Change (DOC) LA.1 title

NRC RAI: Explain the meaning of the term "Related Reporting Problems."

Response: The Company will take the action proposed in the Comment. The term "related reporting problems" in the LA DOC Type 3 title is not an accurate description of the purpose of the DOC. The DOC is used to remove procedural details for meeting TS requirements or for removing reporting requirements. We will change the title.

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 3.7.1.1, Table 3.7-2 , is modified by a footnote that states, "The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure." ITS 3.7.1 does not contain this information. This changes the CTS by eliminating details on setting the lift pressure. RAI 3.7-1 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the lift settings and the definition of OPERABLE states that the components must be capable of performing their safety function. This makes clear that the MSSVs must be adjusted to lift at the settings given under the conditions that the safety analysis assumes the MSSVs will operate. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications. RAI 3.7.1-3 R10

LESS RESTRICTIVE CHANGES

L.1 CTS 3.7.1.1, Action a, provides for one or more main steam safety valves (MSSVs) to be inoperable with the unit operating in MODES 1, 2, and 3. The ACTION requires that within 4 hours the MSSV(s) be restored to OPERABLE status, or the Power Range Neutron Flux High Setpoint Trip(s) to be reduced in accordance with the requirements of Table 3.7-1. ITS 3.7.1, ACTIONS Note, states "Separate Condition entry is allowed for each MSSV." This changes the CTS by allowing separate condition entry for each inoperable MSSV.

The purpose of the ITS ACTIONS NOTE is to allow a separate completion clock for each MSSV that is inoperable. This change is acceptable because it provides the clarification of the Completion Time when one valve is inoperable and, subsequently, a second valve becomes inoperable. This change also provides the Completion Time to evaluate the unit condition with each inoperable valve without challenging the unit during reduction of power. In addition, this change does not modify the technical requirements of reducing power in accordance with Table 3.7-1. This change is considered less restrictive because it provides a separate Completion Time clock for each time one or more MSSV(s) are discovered inoperable.

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.7.1.1 states that with one or more MSSVs inoperable, reduce the Power Range Neutron Flux - High trip setpoint

that comprise an OPERABLE AFW train. This changes the CTS by removing description of the AFW system from the Technical Specifications (TS).

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included to provide adequate protection of public health and safety. The ITS retains all necessary requirements in the LCO to ensure OPERABILITY for the AFW trains. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 (*Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS SR 4.7.1.2.c requires the testing of the automatic valves in the AFW flow path and the starting of the AFW pumps during shutdown. ITS SRs 3.7.5.3 and 3.7.5.4 require the testing for the pumps and a valve to ensure OPERABILITY is maintained. This change moves the requirement to perform the testing "during shutdown" from the Technical Specifications (TS). RAI 3.7-1 R10

The removal of these details for performing surveillance requirements from the TS is acceptable because this type of information is not necessary to be included to provide adequate protection of public health and safety. The ITS retains the required testing of the pumps and valves under controlled conditions to adequately determine their status without jeopardizing unit operations. This change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because procedural details for meeting requirements are being removed from the TS.

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS 4.7.1.2.c.1 and 4.7.1.2.c.2 require verification that each automatic valve actuates to its correct position and each AFW pump starts automatically upon receipt of an AFW actuation test signal. ITS SRs 3.7.5.3 and 3.7.5.4 will contain the same requirements, except the ITS requirements will permit the use of an actual or simulated test signal to initiate the component actuation.

The purpose of CTS 3.7.1.2.c.1 and 4.7.1.2.c.2 is to ensure that the AFW system starts automatically when required. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The components cannot discriminate between an actual or test signal. The use of an actual signal will allow the satisfactory completion of the SRs. Both signals challenge the capability of the components to respond as required. The results of the

effect on plant operation. This change is designated as administrative because it does not result in technical changes to the CTS.

RAI 3.7.8-5 R10

MORE RESTRICTIVE CHANGES

M.1 CTS 4.7.4.1 does not contain a requirement to verify each SW System pump starts automatically on an actuation signal. ITS 3.7.8.3 states, "Verify each SW pump starts automatically on an actual or simulated actuation signal." This changes the CTS by adding a SR to test the SW Systems pumps.

This change is acceptable because in order for the SW System to perform the safety function assumed in the accident analysis, the SW pumps must start automatically. This Surveillance is similar to the testing requirements on other safety system pumps. This change is designated as more restrictive because it adds a SR.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.7.4.1 states that two service water loops shall be OPERABLE and contains a description of what constitutes an OPERABLE loop. ITS 3.7.8 requires two service water (SW) System loops to be OPERABLE, but does not contain these details. This changes the CTS by moving the detail of what constitutes OPERABLE SW System loops to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for two SW System loops to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS Surveillance 4.7.4.1.b requires the measurement of any movement of the SW pumphouse and wing walls every 6 months. CTS 4.7.4.1.b gathers information used in evaluating compliance with CTS 3.7.12, "Settlement of Class 1 Structures." ITS 3.7.8 does not contain this requirement. This changes the

RAI 3.7-1 R10

RAI 3.7.8-4 R10

CTS by moving the procedural detail of measuring SW pumphouse and wing wall movement to the Technical Requirements Manual (TRM). RAI 3.7.8-4 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The measurement of the SW pumphouse and wing walls movement is a part of a long term monitoring program described in CTS 3.7.12, "Settlement of Class 1 Structures." CTS 3.7.12, DOC R.1, documents the relocation of CTS 3.7.12 to the TRM. The CTS 4.7.4.1.b Surveillance contains no acceptance limits for movement and no requirements for action based on the measurement. The acceptance limits and actions are located in CTS 3.7.12. Therefore, the SR is also moved to the TRM. The ITS still retains SRs to demonstrate OPERABILITY of the SW loops. Also, this change is acceptable because these types of procedural details will be adequately controlled in the TRM. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications. RAI 3.7.8-4 R10

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.4.1.c requires verification of the automatic actuation of SW System valves every 18 months during shutdown. ITS SR 3.7.8.2 requires verification of the automatic actuation of SW System valves every 18 months, but not the requirement that this testing be performed during shutdown. This changes the CTS by moving the reference to performing the SR when the plant is shutdown to the Bases. RAI 3.7-1 10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to perform the test every 18 months, a FREQUENCY established to allow the SR to be performed when the unit is shutdown, as described in the Bases. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.4 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.7.4.1.c.1 requires verification that each automatic valve actuates to its correct position on an actual or simulated safety injection signal. CTS 4.7.4.1.c.2 requires verification that each automatic valve actuates to its correct position on an actual or simulated containment high-high signal. ITS SR 3.7.8.2 requires verification that each automatic valve actuates to its correct position on an

ADMINISTRATIVE CHANGES

A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 CTS LCO 3.7.5.1 states that the ultimate heat sinks shall be OPERABLE and describes the Service Water Reservoir parameters that must be met. ITS LCO 3.7.9 states the UHS shall be OPERABLE, and ITS SR 3.7.9.1 and SR 3.7.9.2 contain the parameter values for the Service Water Reservoir that must be met. This changes the CTS by moving the Service Water Reservoir parameter requirements to the SRs.

The purpose of CTS 3.7.5.1 is to provide assurance that the water in the UHS can provide required cooling in case of an event. This change is acceptable because the parameter requirements for the UHS are retained, but are moved from the LCO to the SRs. These changes are designated as administrative because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

RAI 3.7-1 R10

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.5.2 states data for calculating the leakage from the Service Water Reservoir shall be obtained and recorded at least once per 6 months. ITS 3.7.9 does not contain this requirement. This changes the CTS by moving the requirement to the Technical Requirements Manual (TRM).

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the verification

requirements for UHS parameters, which determine OPERABILITY of the UHSs. The purpose of the SR being moved to the TRM is to monitor long-term performance of the Service Water Reservoir dike. Also, this change is acceptable because these types of procedural details will be adequately controlled in TRM. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

RAI 3.7-1 R10

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 3.7.5.1 requires that minimum water level for the ultimate heat sinks be measured to USGS datum, and average water temperature of the Service Water Reservoir be measured at the SW pump outlet. ITS SR 3.7.9.1 and SR 3.7.9.2 require verification of the parameters. This changes the CTS by not specifying the datum for mean sea level, or where the average Service Water Reservoir water temperature is measured.

The removal of these details performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify the respective parameters are within limits. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

None

at which the emergency ventilation system must maintain the control room. ITS SR 3.7.10.4 uses the reference "adjacent areas." This changes the reference used when determining whether the MCR/ESGR envelope has been sufficiently pressurized to a more specific reference.

The purpose of CTS 4.7.7.1.d.3 is to provide assurance that the MCR/ESGR envelope provides adequate protection for the control room operators from radioactive material outside the control room. This change is acceptable because it provides assurance that the pressure measured in the control room is with regard to areas adjacent to the control room, rather than a less specific reference of outside atmosphere, which could be otherwise interpreted. This change is designated as more restrictive because it places more stringent requirements to be demonstrated by Surveillance Requirements.

M.7 CTS 4.7.7.1.d.3 specifies positive pressure and flow requirements that must be met by the control room emergency ventilation system. ITS SR 3.7.10.4 states the positive pressure and flow requirements that must be met by each required train of the MCR/ESGR EVS. This changes the CTS by specifying that the each required train of the MCR/ESGR EVS must be capable of performing the specified Surveillance Requirement.

This change is acceptable because only by testing each of the trains that may be required to perform the safety function assumed in the DBA analysis can there be assurance that the system as a whole will perform as required. This change is designated as more restrictive because it places more stringent requirements to be demonstrated by Surveillance Requirements.

RELOCATED SPECIFICATIONS

None.

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.7.1 states, "Each control room emergency ventilation system shall be demonstrated OPERABLE: a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on." ITS SR 3.7.10.1 states, "Operate each required MCR/ESGR EVS train for ≥ 10 continuous hours with the heaters operating." The Frequency is every 31 days. This changes the CTS by moving the detail of how the surveillance is conducted to the Bases. The change deleting the STAGGERED TEST BASIS reference is addressed in DOC L.1.

RAI 3.7-1 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to periodically operate the MCR/ESGR EVS trains. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.7.1 states, "Each control room emergency ventilation system shall be demonstrated OPERABLE:...d. At least once per 18 months by:...2. Verifying that the normal air supply and exhaust are automatically shutdown on a Safety Injection Actuation Test Signal." ITS SR 3.7.10.3 states, "Verify each LCO 3.7.10.a MCR/ESGR EVS train actuates on an actual or simulated actuation signal." The Frequency is every 18 months. This changes the CTS by moving the detail of what is verified by the Surveillance to the Bases. The change adding the, "actual or simulated actuation," phrase is addressed DOC L.2.

RAI 3.7-1 R10

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to periodically verify that the 3.7.10.a MCR/ESGR EVS trains actuate on an actual or simulated actuation signal. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.7.7.1 states, "Each control room emergency ventilation system shall be demonstrated OPERABLE: a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 10 hours with the heaters on." ITS SR 3.7.10.1 states, "Operate each required MCR/ESGR EVS train for ≥ 10 continuous hours with the heaters operating." The Frequency is every 31 days. This changes the CTS by

to be OPERABLE, regardless of whether the systems are shared. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.8.1.a.1 states that each SAVS system shall be demonstrated OPERABLE by, "Initiating, from the control room, flow through the auxiliary building HEPA filter and charcoal adsorber assembly and verifying that the SAVS operates for at least 10 hours with the heater on." ITS 3.7.12.2 states, "Actuate each ECCS PREACS train by aligning Safeguards Area exhaust flow and Auxiliary Building Central exhaust system flow through the Auxiliary Building HEPA filter and charcoal adsorber assembly." This changes the CTS by moving the fact that the system is actuated from the control room to the Bases. The changes associated with adding Auxiliary Building Central exhaust system components and flow are addressed by DOC M.1. RAI 3.7-1 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to actuate Safeguards Area exhaust flow and Auxiliary Building Central exhaust system flow through the Auxiliary Building HEPA filter and charcoal adsorber assembly for the operating Safeguards Area fan. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.8.1.d.2 requires that part of demonstrating SAVS OPERABILITY is, "Verifying that on a Containment Hi-Hi Test Signal, the system automatically diverts Safeguards Area exhaust flow through the Auxiliary Building HEPA filter and charcoal adsorber assembly." ITS SR 3.7.12.4 states, "Verify Safeguards Area exhaust flow is diverted and each Auxiliary Building filter bank is actuated on an actual or simulated actuation signal." This changes the CTS by moving the detail regarding the specific signal used and flow paths to the Bases. The change adding the option of using an actual signal is addressed in DOC L.2. RAI 3.7-1 R10

The removal of these details, which are related to system design, from the Technical

which the bottled air system must maintain the control room. ITS SR 3.7.13.4 uses the reference "adjacent areas." This changes the reference used when determining whether the MCR/ESGR envelope has been sufficiently pressurized to a more specific reference.

The purpose of CTS 4.7.7.2.b is to provide assurance that the MCR/ESGR envelope provides adequate protection for the control room operators from radioactive material outside the control room. This change is acceptable because it provides assurance that the pressure measured in the control room is with regard to areas adjacent to the control room, rather than a less specific reference of outside atmosphere, which could be otherwise interpreted. This change is designated as more restrictive because it places more stringent requirements to be demonstrated by Surveillance Requirements.

RELOCATED SPECIFICATIONS

None.

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* Unit 2 CTS 3.7.7.1 states, "The following control room emergency habitability systems shall be OPERABLE:... b. The bottled air pressurization system*..." CTS 3.7.7.1 "*" states, "Shared with Unit 1." ITS 3.7.13 requires two MCR/ESGR bottled air system trains to be OPERABLE. This changes the CTS by moving the fact that the two units share the bottled air system to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the two required MCR/ESGR EVS trains and two MCR/ESGR bottled air system trains to be OPERABLE during the specified Applicability, which applies to whichever unit is meeting ITS LCO 3.7.13. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.7.1 states, "Each control room emergency ventilation system shall be demonstrated OPERABLE:...d. At least once per 18 months by:...2.

RAI 3.7-1 R10

Verifying that the normal air supply and exhaust are automatically shutdown on a Safety Injection Actuation Test Signal." ITS SR 3.7.13.3 states, "Verify each MCR/ESGR bottled air system train actuates on an actual or simulated actuation signal." The Frequency is every 18 months. This changes the CTS by moving the detail of what is verified by the Surveillance to the Bases. The change adding the, "actual or simulated actuation," phrase is addressed DOC L.2.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to periodically verify that the MCR/ESGR bottled air system train actuates on an actual or simulated actuation signal. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

RAI 3.7-1 R10

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* The Unit 1 CTS 4.7.7.2 states, "The bottled air pressurization system shall be demonstrated OPERABLE: a. At least once per 31 days by verifying that the system contains a minimum of 102 bottles of air (shared with unit 2) each pressurized to at least 2300 psig." In the Unit 2 CTS, the reference to the other unit states, "shared with unit 1." ITS SR 3.7.13.3 states, "Verify each required MCR/ESGR bottled air bank is pressurized to ≥ 2300 psig." ITS SR 3.7.13.4 states, "Verify each MCR/ESGR bottled air bank manual valve not locked, sealed, or otherwise secured and required to be open during accident conditions is open." The Frequency is every 31 days. This changes the CTS by moving the detail that the bottles are shared with the other unit and the number of bottles required to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to periodically verify OPERABILITY of the required bottles. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases, as appropriate. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.1-01
DOC A.3

NRC RAI: The last sentence states the change is administrative because it involves no technical changes. This may be an insufficient reason because not all Technical Specification (TS) requirements are "technical"; some are administrative. What makes a change administrative is that it involves no change in Current Technical Specifications (CTS) restrictions.
Comment: Take note for preparation of summary tables to be attached to the Safety Evaluation (SE). No response needed from Virginia Electric and Power Company (VEPCO).

Response: The Company does not agree with the action recommended in the Comment. According to NEI 96-06, "Improved Technical Specifications Conversion Guidance," August, 1996, which has been endorsed by the NRC, Administrative Changes, "are purely editorial in nature and are associated with reformatting, restructuring, interpreting, and complex rearranging of requirements, and other changes *not revising the technical requirements contained in the existing document.*" (emphasis added). Therefore, the summary statement in the Administrative DOCs which states, "This change is designated as administrative because it does not involve a technical change to the CTS." is correct. This does not mean that all changes associated with administrative requirements are placed in the Administrative DOC category. All changes to CTS requirements are evaluated based on their effect on the existing requirements and categorized accordingly.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.1-03
DOC LA.1

NRC RAI: The DOC says the details being removed from CTS page 3/4 7-4 are going to the Inservice Inspection Interval and Inservice Testing (IST) Programs. **Comment:** what regulation and or TS requirement will control changes to this information?

Response: The Main Steam Safety Valves are tested under the Inservice Testing program. The Inservice Testing program is required under 10 CFR 50.55a(f). The subject sentence is not needed to justify the change and will be deleted from DOC LA.1.

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 3.7.1.1, Table 3.7-2 , is modified by a footnote that states, "The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure." ITS 3.7.1 does not contain this information. This changes the CTS by eliminating details on setting the lift pressure. RAI 3.7-1 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the lift settings and the definition of OPERABLE states that the components must be capable of performing their safety function. This makes clear that the MSSVs must be adjusted to lift at the settings given under the conditions that the safety analysis assumes the MSSVs will operate. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications. RAI 3.7.1-3 R10

LESS RESTRICTIVE CHANGES

L.1 CTS 3.7.1.1, Action a, provides for one or more main steam safety valves (MSSVs) to be inoperable with the unit operating in MODES 1, 2, and 3. The ACTION requires that within 4 hours the MSSV(s) be restored to OPERABLE status, or the Power Range Neutron Flux High Setpoint Trip(s) to be reduced in accordance with the requirements of Table 3.7-1. ITS 3.7.1, ACTIONS Note, states "Separate Condition entry is allowed for each MSSV." This changes the CTS by allowing separate condition entry for each inoperable MSSV.

The purpose of the ITS ACTIONS NOTE is to allow a separate completion clock for each MSSV that is inoperable. This change is acceptable because it provides the clarification of the Completion Time when one valve is inoperable and, subsequently, a second valve becomes inoperable. This change also provides the Completion Time to evaluate the unit condition with each inoperable valve without challenging the unit during reduction of power. In addition, this change does not modify the technical requirements of reducing power in accordance with Table 3.7-1. This change is considered less restrictive because it provides a separate Completion Time clock for each time one or more MSSV(s) are discovered inoperable.

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.7.1.1 states that with one or more MSSVs inoperable, reduce the Power Range Neutron Flux - High trip setpoint

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.1-05

DOC L.4
ITS SR 3.7.1.1 Note

NRC RAI: The DOC categorizes this change as a "Relaxation of Surveillance Frequency."
Comment: Either ensure the general justification for this category addresses the addition of such notes, or create a new category with its own justification for such changes. It also seems that this change is related to the removal of CTS 3.7.1.1 ACTION b, the exception to CTS 3.0.4, which is addressed by DOC M.1. Thus, DOC L.4 may be unnecessary because the Frequency has not changed, just the plant conditions or modes when the Surveillance Requirement (SR) must be current before an upward mode change is allowed. (Currently, there is there no restriction because of CTS ACTION b. ITS allows entry into Modes 1 and 2 only when the SR is current. ITS allows entering Mode 3, with the SR not current, only when there is reasonable assurance the acceptance criteria are met and the SR would pass if performed, and the reason for entry into Mode 3 is, in part, to perform the SR.)

Response: The Company agrees with the action recommended in the Comment. DOC L.4 is unnecessary as DOC M.1 adequately describes the addition of the SR 3.7.1.1 Note. DOC L.4 is deleted and the markup is altered to indicate that the addition of the SR 3.7.1.1 Note is discussed in DOC M.1.

ITS 3.7.1

A.1

03-06-96

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

Insert proposed Actions Note L.1

ITS

3.7.1

LIMITING CONDITION FOR OPERATION

3.7.1.1 ~~All~~ Five main steam line code safety valves associated with each steam generator ~~of an unisolated reactor coolant loop~~ shall be OPERABLE ~~with lift settings as specified in Table 3.7-2~~ A.3

APPLICABILITY: MODES 1, 2 and 3.

Appl:

ACTION: Insert proposed Action A and first Condition of Condition B L.2

Action A

~~two~~ a. With ~~one~~ or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Setpoint trip is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD SHUTDOWN~~ within the ~~following 30~~ hours. (12) L.3 M.2

Action B

MODE 4

Action C

Insert proposed Required Action B.2 Note

b. ~~The provisions of Specification 3.0.4 are not applicable~~ M.1

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

4.7.1.1 ~~No additional Surveillance Requirements other than those required by~~ Specification 4.0.5.

Insert proposed SR 3.7.1.1

M.1 RAI 3.7.1-5 R10

Or if one or more steam generators have ≥ 4 MSSVs inoperable, M.2

Rev. 1D

A.1

ITS 3.7.1

03-06-96

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

Insert proposed Actions Note

L.1

ITS

LIMITING CONDITION FOR OPERATION

3.7.1

3.7.1.1 Five All main steam line code safety valves associated with each steam generator of an unisolated reactor coolant loop shall be OPERABLE with lift settings as specified in Table 3.7-2.

A.3

APPLICABILITY: MODES 1, 2 and 3.

ACTION: Insert proposed Action A and first Condition of Condition B

L.2

Appl

Action A

Action B

a. two With one or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Range Neutron Flux High Setpoint trip is reduced per Table 3.7-1, otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

L.3

M.2

Action C

Insert proposed Required Action B.2 Note

MODE 4

12

b. The provisions of Specification 3.0.4 are not applicable.

M.1

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

M.1

RAI 3.7.1-5 R10

Insert proposed SR 3.7.1.1

Or if one or more steam generators have ≥ 4 MSSVs inoperable,

M.2

remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. In MODES 2 and 3, the reactor protection system trips specified in LCO 3.3.1, "Reactor Trip System Instrumentation," provide sufficient protection. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

RAI 3.7.1-5 R10

L.4 Not used.

L.5 *(Category 1 – Relaxation of LCO Requirements)* CTS LCO 3.7.1.1 Table 3.7-2 lists the orifice size for the main steam safety valves. ITS 3.7.1 does not contain this information. This changes the CTS by eliminating the diameter of the MSSVs from the Technical Specifications.

The purpose of CTS 3.7.1.1 is to ensure that the MSSVs are capable of relieving Main Steam System pressure. This change is acceptable because the LCO requirements continue to ensure that the structures, systems, and components are maintained consistent with the safety analyses and licensing basis. ITS 3.7.1 retains the lift settings of the MSSVs, which controls the MSSV opening sequences in an overpressure event and ensures that the Main Steam System is not overpressurized. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.3-1

Justification for Deviation (JFD) 3
Beyond Scope Issue (BSI)-14: ITS 3.7.3 ACTIONS & Bases

NRC RAI: Allowing verification that specified inoperable feedwater valves are closed once per 7 days "by administrative means" in ITS 3.7.3 ACTIONS is a general proposal that is being reviewed by the NRC's staff. The reason for this deviation from the STS is that there is no control room valve position indication of the feedwater valves. **Comment:** Explain why local direct valve position verification is not possible, such that administrative controls must be relied upon. Then describe the administrative controls that would be employed. Also, the Bases say "by direct or administrative means," and this appears to conflict with the ITS action statements. This comment is associated with beyond-scope item number 14 on Attachment 4 to the submittal cover letter and is being reviewed under TACs MB1430 and MB1434.

Response: The Company agrees with the action recommended in the Comment. The changes to the Actions that added "by administrative means" are eliminated.

3.7 PLANT SYSTEMS

3.7.3 Main Feedwater Isolation Valves (MFIVs), Main Feedwater Pump Discharge Valves (MFPDVs), Main Feedwater Regulating Valves (MFRVs), and Main Feedwater Regulating Bypass Valves (MFRBVs)

LCO 3.7.3 Three MFIVs, three MFPDVs, three MFRVs, and three MFRBVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3 except when MFIV, MFPDV, MFRV, or MFRBV is closed and de-activated or isolated by a closed manual valve.

ACTIONS

NOTE

Separate Condition entry is allowed for each valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME	
A. One or more MFIVs inoperable.	A.1 Close or isolate MFIV. AND	72 hours	
	A.2 Verify MFIV is closed or isolated.	Once per 7 days	RAI 3.7.3-1 R10
B. One or more MFRVs inoperable.	B.1 Close or isolate MFRV. AND	72 hours	
	B.2 Verify MFRV is closed or isolated.	Once per 7 days	RAI 3.7.3-1 R10
C. One or more MFRBVs inoperable.	C.1 Close or isolate MFRBV. AND	72 hours	
	C.2 Verify MFRBV is closed or isolated.	Once per 7 days	RAI 3.7.3-1 R10

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more MFPDV inoperable.	D.1 Close or isolate MFPDV. AND D.2 Verify MFPDV is closed or isolated.	72 hours Once per 7 days
E. Two valves in the same flow path inoperable.	E.1 Isolate affected flow path.	8 hours
F. Required Action and associated Completion Time not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 4.	6 hours 12 hours

RAI 3.7.3-1 R10

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the isolation time of each MFIV, MFRV, and MFRBV is ≤ 6.98 seconds and the isolation time of each MFPDV is ≤ 60 seconds.	In accordance with the Inservice Testing Program
SR 3.7.3.2	Verify each MFIV, MFPDV, MFRV, and MFRBV actuates to the isolation position on an actual or simulated actuation signal.	18 months

BASES

APPLICABILITY (continued)

in the case of a secondary system pipe break inside containment. When the valves are closed and de-activated or isolated by a closed manual valve, they are already performing their safety function.

In MODES 4, 5, and 6, steam generator energy is low. Therefore, the MFIVs, MFPDVs, MFRVs, and MFRBVs are not required to be OPERABLE.

ACTIONS

The ACTIONS table is modified by a Note indicating that separate Condition entry is allowed for each valve.

A.1 and A.2

With one MFIV in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within 72 hours. When these valves are closed or isolated, they are performing their required safety function.

The 72 hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The 72 hour Completion Time is reasonable, based on operating experience.

Inoperable MFIVs that are closed or isolated must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of other administrative controls, to ensure that these valves are closed or isolated.

RAI 3.7.3-1 R10

B.1 and B.2

With one MFRV in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within 72 hours. When these valves are closed or isolated, they are performing their required safety function.

The 72 hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

period that would require isolation of the MFW flow paths. The 72 hour Completion Time is reasonable, based on operating experience.

Inoperable MFRVs, that are closed or isolated, must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of other administrative controls to ensure that the valves are closed or isolated. RAI 3.7.3-1 R10

C.1 and C.2

With one MFRBV in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within 72 hours. When these valves are closed or isolated, they are performing their required safety function.

The 72 hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The 72 hour Completion Time is reasonable, based on operating experience.

Inoperable MFRBVs that are closed or isolated must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of other administrative controls to ensure that these valves are closed or isolated. RAI 3.7.3-1 R10

D.1 and D.2

With one MFPDV in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within 72 hours. When these valves are closed or isolated, they are performing their required safety function.

(continued)

BASES

ACTIONS

D.1 and D.2 (continued)

The 72 hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The 72 hour Completion Time is reasonable, based on operating experience.

Inoperable MFPDVs that are closed or isolated must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, and in view of other administrative controls, to ensure that these valves are closed or isolated. RAI 3.7.3-1 R10

E.1

With two inoperable valves in the same flow path, there may be no redundant system to operate automatically and perform the required safety function. Under these conditions, the affected valves must be restored to OPERABLE status, or the affected flow path isolated within 8 hours. This action returns the system to the condition where at least one valve in each flow path is performing the required safety function. The 8 hour Completion Time is reasonable, based on operating experience, to complete the actions required to close the affected valves, or otherwise isolate the affected flow path.

F.1 and F.2

If the inoperable valve(s) cannot be restored to OPERABLE status, or closed, or isolated within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

CTS

New

3.7 PLANT SYSTEMS

3.7.3 Main Feedwater Isolation Valves (MFIVs) and Main Feedwater Regulation Valves (MFRVs) and Associated Bypass Valves

LCO 3.7.3 [Four] MFIVs, [four] MFRVs, and associated bypass valves] shall be [OPERABLE.

APPLICABILITY: MODES 1, 2, and 3, except when MFIV, MFRV, [or associated bypass valve] is closed and [de-activated] or isolated by a closed manual valve.

ACTIONS

NOTE
Separate Condition entry is allowed for each valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more MFIVs inoperable.	A.1 Close or isolate MFIV. AND A.2 Verify MFIV is closed or isolated.	[72] hours Once per 7 days
B. One or more MFRVs inoperable.	B.1 Close or isolate MFRV. AND B.2 Verify MFRV is closed or isolated.	[72] hours Once per 7 days

(continued)

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MFIVs and MFRVs and Associated Bypass Valves (MFPDVs, MFRBVs) (1)

3.7.3

CTS

New ↓

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more [MFRV or preheater] bypass valves inoperable. (MFRBVs)	C.1 Close or isolate bypass valve. (MFRBV)	~~72~~ hours (2) (1)
	AND	
	C.2 Verify bypass valve is closed or isolated. (MFRBV)	Once per 7 days
Insert 1 →		(1) RAI 3.23-1 R10
D. (E) Two valves in the same flow path inoperable.	D.1 (E) Isolate affected flow path.	8 hours (1)
E. (E) (F) Required Action and associated Completion Time not met.	E.1 (E) Be in MODE 3.	6 hours (1)
	AND	
	E.2 (F) Be in MODE 4.	12 hours (1)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.3.1 Verify the isolation closure time of each MFIV, MFRV [, and associated bypass valve] is ≤ [ ] seconds on an actual or simulated actuation signal (and MFRBV) (6.98) and the isolation time of each MFPDV is ≤ 60 seconds.	In accordance with the [Inservice Testing Program or [18] months] (2) (1) TSTF-289

Insert 2

TSTF-289

Rev. 10

INSERT 1

D. One or more MFPDV inoperable.	D.1	Close or isolate MFPDV.	72 hours
	AND		
	D.2	Verify MFPDV is closed or isolated.	Once per 7 days

RAI 3.7.3-1 R10

INSERT 2

SR 3.7.3.2	Verify each MFIV, MFPDV, MFRV, and MFRBV actuates to the isolation position on an actual or simulated actuation signal.	18 months

1. The North Anna feedwater system consists of three main feedwater pumps with associated Main Feedwater Pump Discharge Valves (MFPDVs) that feed a common header. From this header are three lines feeding the three steam generators. On each line is a Main Feedwater Isolation Valve (MFIV) in series with a Main Feedwater Regulating Valve (MFRV). On a line which bypasses the MFIV and MFRV is the Main Feedwater Regulating Bypass Valve (MFRBV). Each of these valves, the MFPDV, MFIV, MFRV, and MFRBV, close on receipt of a Safety Injection or Steam Generator Water level - High - High signal. The MFIVs and the MFRVs provide single failure protection for each other, The MFPDV and the MFRBV provide single failure protection for each other. Therefore, all four valve types are required to meet the safety analysis assumptions.

2. The brackets are removed and the proper plant specific information/value is provided.

3. Not used.

RAI 3.7.3-1 R10

BASES

ACTIONS

A.1 and A.2 (continued)

The [72] hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The [72] hour Completion Time is reasonable, based on operating experience.

Inoperable MFIVs that are closed or isolated must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of valve status indications available in the control room and other administrative controls, to ensure that these valves are closed or isolated.

B.1 and B.2

With one MFRV in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within [72] hours. When these valves are closed or isolated, they are performing their required safety function.

The [72] hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The [72] hour Completion Time is reasonable, based on operating experience.

Inoperable MFRVs, that are closed or isolated, must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of valve status indications available in the control room and other administrative controls to ensure that the valves are closed or isolated.

(continued)

BASES

ACTIONS (continued)

C.1 and C.2

With one associated bypass valve in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within [72] hours. When these valves are closed or isolated, they are performing their required safety function.

The [72] hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The [72] hour Completion Time is reasonable, based on operating experience.

Inoperable associated bypass valves that are closed or isolated must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of valve status indications available in the control room, and other administrative controls, to ensure that these valves are closed or isolated.

Insert E

D.1

With two inoperable valves in the same flow path, there may be no redundant system to operate automatically and perform the required safety function. Although the containment can be isolated with the failure of two valves in parallel in the same flow path, the double failure can be an indication of a common mode failure in the valves of this flow path, and as such, is treated the same as a loss of the isolation capability of this flow path. Under these conditions, affected valves in each flow path must be restored to OPERABLE status, or the affected flow path isolated within 8 hours. This action returns the system to the condition where at least one valve in each flow path is performing the required safety function. The 8 hour Completion Time is reasonable, based on operating experience, to complete the actions required to close the MFIV or MFRV, or otherwise isolate the affected flow path.

affected valves

(continued)

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INSERT

D.1 and D.2

With one MFPDV in one or more flow paths inoperable, action must be taken to restore the affected valves to OPERABLE status, or to close or isolate inoperable affected valves within 72 hours. When these valves are closed or isolated, they are performing their required safety function.

The 72 hour Completion Time takes into account the redundancy afforded by the remaining OPERABLE valves and the low probability of an event occurring during this time period that would require isolation of the MFW flow paths. The 72 hour Completion Time is reasonable, based on operating experience.

Inoperable MFPDVs that are closed or isolated must be verified on a periodic basis that they are closed or isolated. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, and in view of other administrative controls, to ensure that these valves are closed or isolated.

RAI 3.7.3-1 R1D

1. Changes are made (additions, deletions, and/or changes) to the ISTS, which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The criteria of the NRC Final Policy Statement on Technical Specifications Improvements have been included in 10 CFR 50.36(c)(2)(ii). Therefore, references in the ISTS Bases to the NRC Final Policy Statement are revised in the ITS Bases to reference 10 CFR 50.36.

3. The brackets are removed and the proper plant specific information/value is provided.

4. The wording is being deleted because it is not applicable to NAPS. The NAPS design is such that the Feedwater check valves prevent blowdown of more than one steam generator.

RAI 3.7.3-1 R10

5. Not used.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.5-1

ITS 3.7.5 Required Action A.1

NRC RAI: The proposed ITS adopts TSTF 340, Revision 3, approved by the NRC on March 6, 2000. STS Revision 2 incorporates this STS improvement. However, in ITS 3.7.5 Required Action A.1, the licensee proposes using "inoperable equipment" instead of the TSTF 340 words "affected equipment." The submittal contains no explicit justification for this difference.

Comment: The ITS should adopt the TSTF 340 language for consistency with STS Revision 2.

Response: The Company agrees with the action recommended in the Comment. The term "affected equipment" will replace the wording "inoperable equipment" for consistency with TSTF-340, Revision 3.

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Three AFW trains shall be OPERABLE.

---------- NOTE ----------
Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven AFW pump inoperable. OR ---------NOTE--------- Only applicable if MODE 2 has not been entered following refueling. ---------- One turbine driven AFW pump inoperable in MODE 3 following refueling.	A.1 Restore affected equipment to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
B. One AFW train inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	B.1 Restore AFW train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO

RAI 3.7.5-1 R10

BASES

LCO (continued)

steam supplies from each of two main steam supply paths through MS-TV-111A and MS-TV-111B (Unit 1), MS-TV-211A and MS-TV-211B (Unit 2), which receive steam from the three main steam lines upstream of the MSTVs. The piping, valves, instrumentation, and controls in the required flow paths also are required to be OPERABLE.

The LCO is modified by a Note indicating that one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4 when the steam generator is relied upon for heat removal. This is because of the reduced heat removal requirements and short period of time in MODE 4 during which the AFW is required and the insufficient steam available in MODE 4 to power the turbine driven AFW pump.

APPLICABILITY

In MODES 1, 2, and 3, the AFW System is required to be OPERABLE in the event that it is called upon to function when the MFW is lost. In addition, the AFW System is required to supply enough makeup water to replace the steam generator secondary inventory, lost as the unit cools to MODE 4 conditions.

In MODE 4 one AFW train is required to be OPERABLE when the steam generator(s) is relied upon for heat removal.

In MODE 5 or 6, the steam generators are not normally used for heat removal, and the AFW System is not required.

ACTIONS

A.1

If one of the two steam supplies, MS-TV-111A and MS-TV-111B (Unit 1), MS-TV-211A and MS-TV-211B (Unit 2), to the turbine driven AFW train is inoperable or if a turbine driven AFW pump is inoperable while in MODE 3 immediately following refueling, action must be taken to restore the affected equipment to an OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons: | RAI 3.7.5-1 R10

a. For the inoperability of a steam supply to the turbine driven AFW pump, the 7 day Completion Time is reasonable since there is a redundant steam supply line for the turbine driven pump.

(continued)

CTS

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

3.7.1.2

LCO 3.7.5 [Three] AFW trains shall be OPERABLE. (6)

[NOTE
Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.] (1)

Appl. APPLICABILITY: MODES 1, 2, and 3.
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
New A. One steam supply to turbine driven AFW pump inoperable.	A.1 Restore steam supply to OPERABLE status. (affected equipment)	7 days AND 10 days from discovery of failure to meet the LCO (12) TSTF-340 / RAI 3.7.5-1 RIO
Action a B. One AFW train inoperable in MODE 1, 2 or 3 for reasons other than Condition A.	B.1 Restore AFW train to OPERABLE status.	72 hours (6) AND 10 days from discovery of failure to meet the LCO (1)

(continued)

OR
NOTE
Only applicable if MODE 2 has not been entered following refueling.
One turbine driven AFW pump inoperable following refueling.

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BASES

LCO (continued)

of the MSIVs, and shall be capable of supplying AFW to any of the steam generators. The piping, valves, instrumentation, and controls in the required flow paths also are required to be OPERABLE.

The LCO is modified by a Note indicating that one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4. This is because of the reduced heat removal requirements and short period of time in MODE 4 during which the AFW is required and the insufficient steam available in MODE 4 to power the turbine driven AFW pump.

APPLICABILITY

In MODES 1, 2, and 3, the AFW System is required to be OPERABLE in the event that it is called upon to function when the MFW is lost. In addition, the AFW System is required to supply enough makeup water to replace the steam generator secondary inventory, lost as the unit cools to MODE 4 conditions.

In MODE 4 the AFW System may be used for heat removal via the steam generators.

In MODE 5 or 6, the steam generators are not normally used for heat removal, and the AFW System is not required.

ACTIONS

A.1

If one of the two steam supplies to the turbine driven AFW train is inoperable, action must be taken to restore OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

a. The redundant OPERABLE steam supply to the turbine driven AFW pump;

b. The availability of redundant OPERABLE motor driven AFW pumps; and

c. The low probability of an event occurring that requires the inoperable steam supply to the turbine driven AFW pump.

Insert

(continued)

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is shutdown. ITS SR 3.7.5.3 requires verifying that each AFW automatic valve not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal once every 18 months. This changes the CTS by only requiring the testing of AFW valves that are not locked, sealed or otherwise secured in position.

The purpose of CTS SR 3.7.1.2.c.1 is to verify that the automatic valves in the AFW System flow paths align to the correct position. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The testing of automatic valves that are aligned and secured into the required safety position is unnecessary. Valves secured in the safety position will satisfy the safety analysis assumption for the mitigation of analyzed accidents. In addition, SR 3.7.5.1 verifies all of the valves in the flow path to be in the correct position every 31 days. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L.8 *(Category 3 – Relaxation of Completion Time)* CTS 3.7.1.2 ACTION a. states, "With one AFW pump inoperable, restore the required AFW pumps to OPERABLE status within 72 hours." ITS 3.7.5 ACTION A states, "One steam supply to turbine driven pump inoperable, or one turbine driven AFW pump inoperable following refueling, restore the affected equipment to OPERABLE status within 7 days." ACTION B requires, "One AFW train inoperable in MODE 1, 2, or 3 for any reason other than Condition A, restore AFW train to OPERABLE status within 72 hours." ACTIONS A and B have a modified Completion Time that states, "10 days from the discovery of failure to meet the LCO." This changes the CTS by allowing up to 10 days to have a combination of inoperable AFW trains.

RAI 3.7.5-1 R10

The purpose of the second Frequency in the ITS is to place a limit on the length of time the unit can operate while in an Action without meeting the LCO. This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. With the addition of Condition A, it is possible to not meet the LCO for an indefinite period of time by entering and exiting Conditions A and B without ever meeting the LCO. The 10-day limit of failure to meet the LCO establishes a maximum time allowed for any combination of Conditions. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

L.9 *(Category 3 – Relaxation of Completion Time)* CTS 3.7.1.2 ACTION b. states that with two AFW pumps inoperable, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours. ITS Action C states, in part, that with two

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.8-1

DOC A.1
CTS 3.7.4.1 Action d
ITS 3.7.8 Required Action C.1, 7-day Completion Time Note

NRC RAI: Suggest deleting the first Completion Time note and presenting the 7-day Completion Time note as a three-part Required Action (C.1.1 and C.1.2 and C.1.3) with "AND" logical connectors and 72 hour Completion Times. Then present the loop restoration action with an "AND" logical connector as Required Action C.2 with a 7-day Completion Time. Less cryptic wording should be used for Required Actions C.1.1, C.1.2, and C.1.3, each of which should say "Verify that . . ." This presentation accomplishes the same thing as the notes in the Completion Time column and is easier to follow using the rules of Section 1.3. (Note that DOC LA.5 would require changing for consistency with the use of actions in place of completion time notes.)

Response: The Company does not agree with the action recommended in the Comment. The Company examined many different presentation options for this set of requirements and, based on feedback from licensed operators, chose the proposed presentation. This presentation is preferred because:

1) The same Required Action is applicable to each of the Completion Times. Repeating the Required Action three times for the same Condition would be confusing.
2) All three requirements must be met for the 7 day Completion Time to be used.
3) The rules concerning the Completion Times and Required Actions are such that Notes would still be required for each of the Required Actions in the suggested presentation.
4) Splitting the 72 hour and 7 day Completion Times causes problems in entry and exit from the respective times.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.8-2

ITS SR 3.7.8.1 Note
DOC A.5

NRC RAI: The Staff will ensure that the SE table states that adding this note simply clarifies current operating practice not explicitly stated in nor prohibited by CTS, and is, therefore, an administrative change.

Response: No response required.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.8-3

DOC A.8
CTS 4.7.4.1.d

NRC RAI: Although CTS 4.0.5 IST program requirement is retained in ITS 5.5.8, the removal of specific CTS listings of components, subject to IST and that are not retained in explicit ITS SRs, should be characterized as LA-type changes, not administrative. The IST programmatic document, which is required by 10 CFR 50.55a and clarified by ITS 5.5.8 with regard to ITS SR Frequency conventions, contains the list of components subject to IST requirements.
Comment: Therefore, moving this SR detail (service water pump IST) to the IST Program (for which changes are controlled by ITS 5.5.8 and 10 CFR 50.55a) is an LA-type change.

Response: The Company will take the action proposed in the Comment. DOC A.8 is deleted and DOC LA.7 is added to describe moving this SR detail to the IST Program.

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

3/4.7.4.1 SERVICE WATER SYSTEM – OPERATING

LIMITING CONDITION FOR OPERATION

d. The allowable time that one of the two service water loops can be inoperable as specified in ACTION 3.7.4.1.c may be extended beyond 72 hours up to 168 hours as part of service water system upgrades* provided 3 out of 4 service water pumps (the third pumps does not require auto start capability) and 2 out of 2 auxiliary service water pumps have been OPERABLE since initial entry into the action statement and remain OPERABLE during the extended action statement or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With two service water loops inoperable for reasons other than described in ACTION 3.7.4.1.b, place both units in HOT SHUTDOWN within 12 hours and within the following hour, initiate actions to place both units in COLD SHUTDOWN and continue actions until both units are in COLD SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

Insert SR 3.7.8.1 NOTE

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 6 months by measurement of the movement of the pumphouse and wing walls.

c. At least once per 18 months during shutdown by:

1. Verifying that each automatic valve servicing safety related equipment that is not locked, sealed, or otherwise secured in position in the flowpath actuates to its correct position on an actual or simulated safety injection signal.

2. Verifying that each automatic service water valve actuates to its correct position on an actual or simulated containment high-high signal activation

d. Each service water pump will be tested in accordance with Specification 4.0.5.

* Isolation of one service water loop for up to 168 hours is permitted only as part of service water system upgrades. System upgrades include modification and maintenance activities associated with the installation of new discharge headers and spray arrays, mechanical and chemical cleaning of service water piping and valves, pipe repair and replacement, valve repair and replacement, installation of corrosion mitigation measures and inspection of and repairs to buried piping interior coatings and pump or valve house components.

Insert SR 3.7.8.3

A.1

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PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

ITS 3/4.7.4.1 SERVICE WATER SYSTEM – OPERATING

LIMITING CONDITION FOR OPERATION

Action C.1 Completion Time Note

d. The allowable time that one of the two service water loops can be inoperable as specified in ACTION 3.7.4.1.c may be extended beyond 72 hours up to 168 hours as part of service water system upgrades* provided 3 out of 4 service water pumps (the third pump does not require auto start capability) and 2 out of 2 auxiliary service water pumps have been OPERABLE since initial entry into the action statement and remain OPERABLE during the extended action statement or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. LA.5

Action D.1 D.2

Actions E.1 E.2

e. With two service water loops inoperable for reasons other than described in ACTION 3.7.4.1.b, place both units in HOT SHUTDOWN within 12 hours and within the following hour, initiate actions to place both units in COLD SHUTDOWN and continue actions until both units are in COLD SHUTDOWN. A.2

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

Insert SR 3.7.8.1 NOTE A.5

SR 3.7.8.1

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 6 months by measurement of the movement of the pumphouse and wing walls. LA.2 LA.3

c. At least once per 18 months during shutdown, by: that is not locked, sealed, or otherwise secured in position L.1

SR 3.7.8.2

1. Verifying that each automatic valve servicing safety related equipment in the flowpath actuates to its correct position on an actual or simulated safety injection signal. A.6 LA.7

2. Verifying that each automatic service water valve actuates to its correct position on an actual or simulated containment high-high signal. A.7 actuation LA.4

SR 3.7.8.3

d. Each service water pump will be tested in accordance with Specification 4.0.5. LA.7 RAI 3.7.8-8 RIO

Insert SR 3.7.8.3 M.1

LA.6

* Isolation of one service water loop for up to 168 hours is permitted only as part of service water system upgrades. System upgrades include modification and maintenance activities associated with the installation of new discharge headers and spray arrays, mechanical and chemical cleaning of service water piping and valves, pipe repair and replacement, valve repair and replacement, installation of corrosion mitigation measures and inspection of and repairs to buried piping interior coatings and pump or valve house components.

actuation signals. ITS SR 3.7.8.2 retains this requirement. This change is designated as administrative because it does not result in technical changes to the CTS.

RAI 3.7.8-3 R10

A.8 Not used.

A.9 Not used.

R10

A.10 CTS 3.7.4.1 Action a states that when one service water pump is inoperable, the SW flow to the CC heat exchangers must be throttled in accordance with approved operating procedures to ensure the remaining service water pumps are capable of providing adequate flow to the RS heat exchangers. ITS 3.7.8 Actions A.1 and B.1 require throttling of the SW flow to the CC heat exchangers to obtain the required RS heat exchanger flow. This changes the CTS by deleting the requirement that the throttling be performed using approved operating procedures.

RAI 3.7.8-5 R10

The purpose of CTS 3.7.4.1 Action a is to provide assurance that component cooling heat exchanger flow is throttled within 72 hours of a SW pump inoperability so that the SW System is available when needed. This change is acceptable because the requirement to perform the action in accordance with approved procedures is redundant to other Specifications. ITS Section 5.4.1 requires that written procedures be established, implemented, and maintained covering activities which include the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33 Appendix A states that among the typical safety-related activities that should be covered by written procedures, list number 3, Procedures for Startup, Operation, and Shutdown of Safety-Related PWR Systems, instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate, for systems which include item "m", "Service Water System". CTS 3/4.7.4.1 Action a, throttling component cooling water heat exchanger flow, would be considered changing the mode of operation of the system. Therefore, deleting this statement from CTS 3.7.4.1 has no

change because information relating to system design is being removed from the Technical Specifications.

LA.7 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.4.1.d requires each SW pump to be tested in accordance with Specification 4.0.5. ITS 5.5.7, "Inservice Testing Program," provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. ITS 3.7.8 does not contain the specific Surveillance to test each SW pump in accordance with the Inservice Testing Program. This changes the CTS by removing a detailed listing of the components required to be tested in accordance with the Inservice Testing Program.

RAI 3.7.8-3 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains a requirement to perform the testing required by the Inservice Testing Program. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Inservice Testing Program, which is controlled under 10 CFR 50.55a. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 5 – Deletion of Surveillance Requirement)* CTS 4.7.4.1.c.1 and 4.7.4.1.c.2 require verification that SW System automatic valves actuate to their correct position. ITS SR 3.7.8.2 requires verification that SW System automatic valves in the flow path that are not locked, sealed or otherwise secured in position, actuate to the correct position on an actual or simulated actuation signal. This changes the CTS by exempting valves that are locked, sealed, or otherwise secured in position from the verification.

The purpose of CTS 4.7.4.1.c.1 and 4.7.4.1.c.2 is to provide assurance that if an event occurred requiring the SW System valves to be in their correct position, that those requiring automatic actuation would actuate to their correct position. This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function. The change exempts valves that have already been placed in the correct position and are locked, sealed, or otherwise secured in position. Those automatic SW System valves that are locked, sealed, or otherwise secured in position are not required to actuate in order to perform their safety function because they are already in the required

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.8-4 and 3/4.7.12-1

DOC 3.7.8 - LA.2
DOC 3/4.7.12 - R.1
CTS 4.7.4.1.b
CTS 3/4.7.12, Settlement of Class I Structures
CTS Table 3.7-5 Item Nos. 2, 3, 6, and 7

NRC RAI: a. DOC 3.7.8 - LA.2 is correct in saying that CTS 4.7.4.1.b has no explicit "acceptance criteria;" however, the requirements of CTS 3/4.7.12 provide such criteria and action requirements as well. The removal of CTS 4.7.4.1.b seems associated with the relocation of CTS 3/4.7.12. Neither referenced DOC describes the inspection results or historical trends of the settlement of the plant's Class I structures to demonstrate that settlement poses no immediate threat to operability of affected systems, service water being one of them. **Comment:** Revise DOC 3.7.8 - LA.2 to reference DOC 3/4.7.12 - R.1, and revise DOC 3/4.7.12 - R.1 to describe such historical trends to strengthen the basis for relocating these requirements to the Technical Requirements Manual (TRM).

Response: The Company will take the action proposed in the Comment. DOC LA.2 is modified to reference CTS 3/4.7.12, DOC R.1, and CTS 3/4.7.12, DOC R.1, is modified to describe that historical trends of the settlement of the plant's Class I structures demonstrate that settlement poses no immediate threat to OPERABILITY of affected systems, including service water.

NRC RAI: b. CTS 3/4.7.12 Action b requires a shutdown. **Comment:** Under this TS, describe how would the plant restore conformance to the Limiting Condition for Operation (LCO) so that a startup is permitted. Under the TRM, how would the licensee arrive at such a startup decision?

Response: Under the TS, a plant startup after a shutdown in accordance with CTS 3.7.12.1.b would require either restoration of compliance with the LCO or a license amendment to revise the allowable settlement values in Table 3.7-5. Under the TRM, plant startup would require either compliance with the relocated LCO or an engineering evaluation which justifies the revision of the allowable settlement values in the relocated Table 3.7-5. This justification would follow the guidance in Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." This engineering evaluation would also include a determination of the need for prior NRC approval in accordance with 10 CFR 50.59.

NRC RAI: c. DOC 3.7.8 - LA.2 does not appear to fit the Type 3 description or justification.

Response: The Company will take the action proposed in the Comment. The revisions made to DOC LA.2 to address part "a" of this RAI clarify the applicability of the Type 3 LA description to this change.

effect on plant operation. This change is designated as administrative because it does not result in technical changes to the CTS.

RAI 3.7.8-5 R10

MORE RESTRICTIVE CHANGES

M.1 CTS 4.7.4.1 does not contain a requirement to verify each SW System pump starts automatically on an actuation signal. ITS 3.7.8.3 states, "Verify each SW pump starts automatically on an actual or simulated actuation signal." This changes the CTS by adding a SR to test the SW Systems pumps.

This change is acceptable because in order for the SW System to perform the safety function assumed in the accident analysis, the SW pumps must start automatically. This Surveillance is similar to the testing requirements on other safety system pumps. This change is designated as more restrictive because it adds a SR.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.7.4.1 states that two service water loops shall be OPERABLE and contains a description of what constitutes an OPERABLE loop. ITS 3.7.8 requires two service water (SW) System loops to be OPERABLE, but does not contain these details. This changes the CTS by moving the detail of what constitutes OPERABLE SW System loops to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for two SW System loops to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

RAI 3.7-1 R10

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS Surveillance 4.7.4.1.b requires the measurement of any movement of the SW pumphouse and wing walls every 6 months. CTS 4.7.4.1.b gathers information used in evaluating compliance with CTS 3.7.12, "Settlement of Class 1 Structures." ITS 3.7.8 does not contain this requirement. This changes the

RAI 3.7.8-4 R10

CTS by moving the procedural detail of measuring SW pumphouse and wing wall movement to the Technical Requirements Manual (TRM). RAI 3.7.8-4 R10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The measurement of the SW pumphouse and wing walls movement is a part of a long term monitoring program described in CTS 3.7.12, "Settlement of Class 1 Structures." CTS 3.7.12, DOC R.1, documents the relocation of CTS 3.7.12 to the TRM. The CTS 4.7.4.1.b Surveillance contains no acceptance limits for movement and no requirements for action based on the measurement. The acceptance limits and actions are located in CTS 3.7.12. Therefore, the SR is also moved to the TRM. The ITS still retains SRs to demonstrate OPERABILITY of the SW loops. Also, this change is acceptable because these types of procedural details will be adequately controlled in the TRM. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications. RAI 3.7.8-4 R10

LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.7.4.1.c requires verification of the automatic actuation of SW System valves every 18 months during shutdown. ITS SR 3.7.8.2 requires verification of the automatic actuation of SW System valves every 18 months, but not the requirement that this testing be performed during shutdown. This changes the CTS by moving the reference to performing the SR when the plant is shutdown to the Bases. RAI 3.7-1 10

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to perform the test every 18 months, a FREQUENCY established to allow the SR to be performed when the unit is shutdown, as described in the Bases. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.4 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.7.4.1.c.1 requires verification that each automatic valve actuates to its correct position on an actual or simulated safety injection signal. CTS 4.7.4.1.c.2 requires verification that each automatic valve actuates to its correct position on an actual or simulated containment high-high signal. ITS SR 3.7.8.2 requires verification that each automatic valve actuates to its correct position on an

RELOCATED SPECIFICATIONS

R.1 CTS 3.7.12.1 and Table 3.7-5 provide limits on the total and differential settlement of Class 1 structures. This LCO does not meet the criteria for retention in the ITS; therefore, it will be retained in the Technical Requirements Manual.

This change is acceptable because CTS 3.7.12.1 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. Settlement of Class 1 structures is not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. Settlement of Class 1 structures does not meet criterion 1.

2. Settlement of Class 1 structures is not a process variable, design feature, or operating restriction that is an initial condition of a DBA or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Settlement of Class 1 structures does not meet criterion 2.

3. Settlement of Class 1 structures is not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Settlement of Class 1 structures does not meet criterion 3.

4. Settlement of Class 1 structures not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. Historical trends of the settlement of the Class 1 structures demonstrate that settlement poses no immediate threat to OPERABILITY of affected systems. Settlement of Class 1 structures was not evaluated in WCAP-11618. An evaluation performed by the Company determined that settlement of Class 1 structures is a non-significant risk contributor to core damage frequency and offsite releases. The settlement of Class 1 structures specification is not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. Settlement of Class 1 structures does not meet criterion 4.

RAI 3/4.7.12-1 R10

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the Settlement of Class 1 Structures LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The Settlement of Class 1 Structures specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as relocation because the LCO did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.8-5

DOC L.2
CTS 3/4.7.4.1 Action a

NRC RAI: Deletion of the phrase "in accordance with approved procedures" does not seem to be a relaxation of action requirements, rather a deletion of a TS requirement redundant to regulations that require using procedures for activities affecting safety. **Comment:** Thus this relaxation should have a different L-categorization and justification than proposed.

Response: The Company will take the action proposed in the Comment with modifications. DOC L.2 is deleted and DOC A.10 is added with the explanation that ITS 5.4.1 requires that written procedures be established, implemented, and maintained covering activities which include the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33 Appendix A states that among the typical safety-related activities that should be covered by written procedures, list number 3, Procedures for Startup, Operation, and Shutdown of Safety-Related PWR Systems, instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate, for systems which include item "m", "Service Water System". CTS 3/4.7.4.1 Action a, throttling component cooling water heat exchanger flow, would be considered changing the mode of operation of the system. Therefore, the CTS requirement to perform the throttling of the component cooling water heat exchanger flow in accordance with approved procedures is redundant to ITS 5.4.1.

ITS 3.7.8

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PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

3/4.7.4.1 SERVICE WATER SYSTEM – OPERATING

LIMITING CONDITION FOR OPERATION

3.7.4.1 Two service water loops shared with Unit 2 shall be OPERABLE with each loop consisting of:

a. Two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies,* and

b. An OPERABLE flow path capable of providing cooling for OPERABLE plant components and transferring heat to the service water reservoir.

APPLICABILITY: Either Unit in MODES 1, 2, 3 or 4.

ACTION:

a. With one service water pump inoperable, within 72 hours throttle component cooling water heat exchanger flows in accordance with approved operating procedures to ensure the remaining service water pumps are capable of providing adequate flow to the recirculation spray heat exchangers. The provisions of Specification 3.0.4 are not applicable once component cooling heat exchangers flows are throttled.

b. With two service water pumps inoperable, perform ACTION 3.7.4.1.a within 1 hour and restore at least one service water pump to OPERABLE status within 72 hours. or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With one service water loop inoperable, except as provided in ACTION 3.7.4.1.a, be restore the inoperable loop to OPERABLE status within 72 hours. or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

throttle component cooling heat exchanger flow

* For the purpose of service water system upgrades associated with the supply and return piping to/from the component cooling water heat exchangers (CCHXs) which includes encased in concrete and exposed piping from the 36" headers to the first isolation valve, one of the two service water (SW) loops is permitted to temporarily bypass the CCHXs, provided all other requirements in this specification are met. This condition is permitted two times only (once for each SW loop) for a duration of up to 35 days each. During each period of operation with only one SW loop available to/from the CCHXs, four out of four SW pumps (excluding the auxiliary SW pumps) shall remain OPERABLE. With one SW pump inoperable, work may continue provided actions are taken to either restore the pump to OPERABLE status within 72 hours or restore both SW headers to/from the CCHXs to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. During each period of operation with only one SW loop available to/from the CCHXs, the automatic closure feature of the SW valves servicing the CCHXs shall be defeated to ensure SW flow to the CCHXs is not interrupted. The automatic closure will not be defeated when the 168-hour Action Statement per Section 3.7.4.1.d is entered during these 35-day periods of operation. During each period of operation with only one SW loop available to/from the CCHXs, the provisions of Specification 3.0.4 are not applicable, provided two SW loops are capable of providing cooling for the other OPERABLE plant components. Upon completion of the work associated with the second 35-day period, this footnote will no longer be applicable.

ITS 3.7.8

A.1

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PLANT SYSTEMS

ITS

3/4.7.4 SERVICE WATER SYSTEM

3/4.7.4.1 SERVICE WATER SYSTEM – OPERATING

LIMITING CONDITION FOR OPERATION

3.7.8

3.7.4.1 Two service water loops (shared with Unit 1) shall be OPERABLE with each loop consisting of: A.2 A.4

a. Two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies; and L.3 RID

b. An OPERABLE flow path capable of providing cooling for OPERABLE plant components and transferring heat to the service water reservoir. LA.1

APPLICABILITY: Either Unit in MODES 1, 2, 3 or 4. A.2

ACTION:

Actron A.1

a. With one service water pump inoperable, within 72 hours throttle component cooling water heat exchanger flows in accordance with approved operating procedures to ensure the remaining service water pumps are capable of providing adequate flow to the recirculation spray heat exchangers. The provisions of Specification 3.0.4 are not applicable once component cooling heat exchangers flows are throttled. A.1D RAI 3.7.8-5 RID A.3

Actron B.1
Actron B.2
Actron D.1
Actron D.2

b. With two service water pumps inoperable, perform ACTION 3.7.4.1.a within 1 hour and restore at least one service water pump to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. A.1 A.2 6e

Actron C.1
Actron D.1
Actron D.2

c. With one service water loop inoperable, except as provided in ACTION 3.7.4.1.a. restore the inoperable loop to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

throttle component cooling heat exchanger flow A.1

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* For the purpose of service water system upgrades associated with the supply and return piping to/from the component cooling water heat exchangers (CCHXs) which includes encased in concrete and exposed piping from the 36" headers to the first isolation valve, one of the two service water (SW) loops is permitted to temporarily bypass the CCHXs, provided all other requirements in this specification are met. This condition is permitted two times only (once for each SW loop) for a duration of up to 35 days each. During each period of operation with only one SW loop available to/from the CCHXs, four out of four SW pumps (excluding the auxiliary SW pumps) shall remain OPERABLE. With one SW pump inoperable, work may continue provided actions are taken to either restore the pump to OPERABLE status within 72 hours or restore both SW headers to/from the CCHXs to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. During each period of operation with only one SW loop available to/from the CCHXs, the automatic closure feature of the SW valves servicing the CCHXs shall be defeated to ensure SW flow to the CCHXs is not interrupted. The automatic closure will not be defeated when the 168-hour Action Statement per Section 3.7.4.1.d is entered during these 35-day periods of operation. During each period of operation with only one SW loop available to/from the CCHXs, the provisions of Specification 3.0.4 are not applicable, provided two SW loops are capable of providing cooling for the other OPERABLE plant components. Upon completion of the work associated with the second 35-day period, this footnote will no longer be applicable. A.4

actuation signals. ITS SR 3.7.8.2 retains this requirement. This change is designated as administrative because it does not result in technical changes to the CTS.

RAI 3.7.8-3 R10

A.8 Not used.

A.9 Not used.

R10

A.10 CTS 3.7.4.1 Action a states that when one service water pump is inoperable, the SW flow to the CC heat exchangers must be throttled in accordance with approved operating procedures to ensure the remaining service water pumps are capable of providing adequate flow to the RS heat exchangers. ITS 3.7.8 Actions A.1 and B.1 require throttling of the SW flow to the CC heat exchangers to obtain the required RS heat exchanger flow. This changes the CTS by deleting the requirement that the throttling be performed using approved operating procedures.

RAI 3.7.8-5 R10

The purpose of CTS 3.7.4.1 Action a is to provide assurance that component cooling heat exchanger flow is throttled within 72 hours of a SW pump inoperability so that the SW System is available when needed. This change is acceptable because the requirement to perform the action in accordance with approved procedures is redundant to other Specifications. ITS Section 5.4.1 requires that written procedures be established, implemented, and maintained covering activities which include the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33 Appendix A states that among the typical safety-related activities that should be covered by written procedures, list number 3, Procedures for Startup, Operation, and Shutdown of Safety-Related PWR Systems, instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate, for systems which include item "m", "Service Water System". CTS 3/4.7.4.1 Action a, throttling component cooling water heat exchanger flow, would be considered changing the mode of operation of the system. Therefore, deleting this statement from CTS 3.7.4.1 has no

effect on plant operation. This change is designated as administrative because it does not result in technical changes to the CTS. RAI 3.7.8-5 R10

MORE RESTRICTIVE CHANGES

M.1 CTS 4.7.4.1 does not contain a requirement to verify each SW System pump starts automatically on an actuation signal. ITS 3.7.8.3 states, "Verify each SW pump starts automatically on an actual or simulated actuation signal." This changes the CTS by adding a SR to test the SW Systems pumps.

This change is acceptable because in order for the SW System to perform the safety function assumed in the accident analysis, the SW pumps must start automatically. This Surveillance is similar to the testing requirements on other safety system pumps. This change is designated as more restrictive because it adds a SR.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.7.4.1 states that two service water loops shall be OPERABLE and contains a description of what constitutes an OPERABLE loop. ITS 3.7.8 requires two service water (SW) System loops to be OPERABLE, but does not contain these details. This changes the CTS by moving the detail of what constitutes OPERABLE SW System loops to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for two SW System loops to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS Surveillance 4.7.4.1.b requires the measurement of any movement of the SW pumphouse and wing walls every 6 months. CTS 4.7.4.1.b gathers information used in evaluating compliance with CTS 3.7.12, "Settlement of Class 1 Structures." ITS 3.7.8 does not contain this requirement. This changes the RAI 3.7-1 R10 RAI 3.7.8-4 R10

position. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

RAI 3.7.8.5 R10

L.2 Not used

L.3 *(Category 3 – Relaxation of Completion Time)* CTS 3.7.4.1.a requires that each required service water loop include two OPERABLE service water pumps with their associated normal and emergency power supplies. The CTS Section 1.0 definition of "OPERABLE - OPERABILITY" requires that all necessary normal and emergency electrical power sources be available for the system, subsystem, train, component, or device to be OPERABLE. The ITS Section 1.1 definition of "OPERABLE - OPERABILITY" will replace the phrase "normal and emergency electrical power sources" with "normal or emergency electrical power sources". This changes the CTS by allowing a device to be considered OPERABLE with either normal or emergency power available. ITS 3.7.8 does not contain power source requirements for the service water pumps. This changes CTS by addressing service water pump power source requirements through the definition of OPERABLE-OPERABILITY and through ITS 3.8.1. Conditions are entered and Required Actions are taken of ITS 3.8.1 for power supply inoperabilities, and subsequently entering ITS 3.7.8 Conditions for power supply inoperabilites as appropriate based on ITS 3.8.1 Required Actions. R10

The purpose of ITS 3.7.8 is to provide appropriate Conditions and Required Actions for the SW System. This change is acceptable because the Completion Times are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. ITS 3.8.1, AC Sources, contains ACTIONS (verification of redundant features) to ensure that a loss of function does not exist and that appropriate compensatory measures will be taken to respond to a degradation of the electrical power sources. Similar evaluations are required by ITS LCO 3.0.6 and ITS Chapter 5.0, Safety Function Determination Program. The ITS 3.8.1 ACTIONS also limit the time that the AC Sources are allowed to remain inoperable. Shared components are declared inoperable and their respective Conditions are entered as specified in 3.8.1. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

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RAI 3.7.8-6

JFD 1
STS 3.7.8 Required Action A.1 Note 2

NRC RAI: Explain the statement in JFD 1, "RHR [residual heat removal] loops are not made inoperable directly by SW [service water] system inoperabilities." Alone, this appears insufficient to justify not adopting STS 3.7.8 Required Action A.1 Note 2. SW is the heat sink for Component Cooling Water (CCW) (which ITS proposes to relocate from CTS) and CCW is the heat sink for RHR, isn't a CCW loop and an RHR loop made inoperable when one SW loop is inoperable? See JFD 2 regarding proposed ACTION E.

Response: The Company will take the action proposed in the Comment with modifications. The STS Bases for Required Action A.1, Notes 1 and 2, state, "This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components." This Bases is not applicable to the North Anna ITS, because LCO 3.0.6 would not apply in this condition. LCO 3.0.6 addresses systems in Technical Specifications which are supported by other systems in Technical Specifications. That is not the case in ITS 3.7.8, in which the support system supports a non-Technical Specification support system, which in turn supports a Technical Specification system. Therefore, a Note eliminating the use of LCO 3.0.6 is unnecessary. In addition, inoperability of a Service Water train would not, by necessity, render an RHR train inoperable. If the Component Cooling water system still has sufficient capacity to perform its required function of removing heat from the RHR system, the RHR system would be OPERABLE. For example, low Service Water flow may render the Service Water system inoperable, but may still provide sufficient cooling to the Component Cooling water system for it to perform its required function for RHR OPERABILITY. If the Component Cooling system does not have sufficient heat removal capacity, the definition of OPERABILITY would require declaring the associated RHR train inoperable (i.e., by the reference to cooling water in the definition of OPERABILITY).

JFD 1 is modified to provide additional explanation of the elimination of Required Action A.1, Notes 1 and 2. JFD 2 is modified to make clear that inoperability of two trains of Service Water "may result," not "will result," in inadequate heat sink for RHR.

1. The SW System is common to Units 1 and 2 and is designed for the simultaneous operation of various subsystems and components of both units. There are 2 SW loops and most components, including the SW pumps, can be aligned to operate on either loop. All safety-related systems or components requiring cooling during an accident, principally the Recirculation Spray (RS) heat exchangers, are cooled by the SW System.

   The Actions of ISTS 3.7.8 are revised to reflect the North Anna SW System design and licensing Basis. The revisions are consistent with the CTS 3.4.7.1 Actions.

   Condition A requires throttling of the SW flow to the CC heat exchangers when one SW pump is inoperable. This is necessary to ensure that in the event of a DBA with a single failure there is sufficient flow directed to the RS System heat exchangers. 72 hours is allotted to perform the throttling. Operation is allowed to continue once the throttling is accomplished as the system is fully capable of responding to an accident (including a single failure) in this configuration.

   Condition B applies when two SW pumps are inoperable. In this condition the SW flow to the CC heat exchangers must be throttled within 1 hour. This is necessary to ensure that in the event of a DBA, even without a single failure, the SW System is capable of supplying sufficient water to the RS heat exchangers. A SW pump must then be restored within 72 hours or a shutdown is required by Action D. This is consistent with ISTS Action A.1, except Notes 1 and 2 of ISTS Action A.1 are not included because the Notes do not apply to the system design at North Anna. The North Anna emergency diesel generators are air cooled and do not require the SW System for OPERABILITY. The STS Bases for Required Action A.1, Note 2, states, "This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components." This Bases is not applicable to the North Anna ITS, because LCO 3.0.6 would not apply in this condition. LCO 3.0.6 addresses systems in Technical Specifications which are supported by other systems in Technical Specifications. That is not the case in ITS 3.7.8, in which the support system (Service Water) supports a non-Technical Specification support system (Component Cooling Water), which in turn supports a Technical Specification system (RHR). Therefore, a Note eliminating the use of LCO 3.0.6 is unnecessary. In addition, inoperability of a Service Water train would not, by necessity, render an RHR train inoperable. If the Component Cooling water system still has sufficient capacity to perform its required function of removing heat from the RHR system, the RHR system would be OPERABLE. For example, low Service Water flow may render the Service Water system inoperable, but may still provide sufficient cooling to the Component Cooling water system for it to perform its required function for RHR OPERABILITY. If the Component Cooling system does not have sufficient heat removal capacity, the definition of OPERABILITY would require declaring the associated RHR train inoperable (i.e., by the reference to cooling water in the definition of OPERABILITY).

   RAI 3.7.8-6 R10

   Condition C applies when a SW loop is inoperable The format is consistent with ISTS Condition A except that Notes 1 and 2 of ISTS Action A.1 are deleted. However, the

Condition C Completion Time includes a Note stating that the 72 hour Completion Time is only required if criteria allowing the 7 day Completion Time are not met. An optional 7 day Completion Time is added with a Note stating that the 7 day Completion Time is only applicable if specific conditions are met. The conditions are that the SW loop inoperability is part of SW System upgrades, at least three SW pumps (one allowed to not have automatic start capability) are Operable, and two auxiliary SW pumps are Operable. This exception, taken from CTS 3.7.4.1 Action d, was granted to North Anna by the NRC in license amendments 152 (Unit 1) and 136 (Unit 2) to facilitate the long-term upgrade of the North Anna SW System. Details on what constitutes SW System upgrades and on the requirements on the SW pumps are contained in the Bases. This allowance is used regularly and it is anticipated that the allowance will be needed after ITS implementation.

Condition D requires a unit shutdown and has been expanded to apply to Conditions A, B and C.

2. A new Condition, Condition E, is added which applies when two SW loops are inoperable. With two SW loops inoperable, the CC system may not be able to provide its required function for RHR OPERABILITY. Cooldown below MODE 4 is not possible without reliance on RHR. Therefore, Condition E allows 12 hours to reach MODE 4 and the steam generators can be used to maintain the unit in MODE 4. Action must begin within one hour to find and implement a method of moving the unit out of the MODES of applicability (i.e., MODE 5) and Actions must continue until the Applicability is exited. This Condition is consistent with the current licensing basis and is necessary to reflect the North Anna SW System design.

RAI 3.7.8-6 R10

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. Changes are made (additions, deletions, and/or changes) to the ISTS which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

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RAI 3.7.10-1

DOC M.2
ITS 3.7.10 Conditions A, B and D

NRC RAI: Suggest revising the wording of these conditions for clarity as follows:

Condition A: One of the three MCR[Main Control Room]/ESGR [Emergency Switchgear Room] EVS [Emergency Ventilation System] trains required by LCO 3.7.10.a and LCO 3.7.10.b inoperable.

Condition B: More than one of the three MCR/ESGR EVS trains required by LCO 3.7.10.a and LCO 3.7.10.b inoperable due to inoperable MCR/ESGR boundary.

Condition C: More than one of the three MCR/ESGR EVS trains required by LCO 3.7.10.a and LCO 3.7.10.b inoperable for reasons other than Condition B.

Response: The Company does not agree with the action recommended in the Comment. The Company examined many different presentation options for this set of requirements and, based on feedback from licensed operators, chose the proposed presentation.

In the ITS, the term "required" means "required by the LCO." The suggested presentation of, "one of the three . . . required by LCO 3.7.10.a and 3.7.10.b," is redundant, as the term "required" already implies "of the three trains required by LCO 3.7.10.a and 3.7.10.b."

The term, "more than one of three," is less consistent with the remainder of the ITS than the chosen term, "two or more." See STS Conditions 3.3.6.B, 3.4.10.B, 3.4.12.A, 3.5.1.D, 3.7.4.B, and 3.8.9.E for examples. The term "more than one" does appear in three Conditions (STS Conditions 3.1.4.D, 3.1.7.B, and 3.4.11.F), but is less common than the preferred wording.

An additional Condition, in addition to those suggested, would still be required under the proposed format - a Condition requiring plant shutdown if the inoperable boundary is not restored. This should not be combined with proposed Condition B because it would result in combining unequal Completion Times with an "OR" logical connector. That construction is avoided in the ITS. Therefore, the proposed format would still require four Conditions.

As the format suggested in the Comment is less consistent with the remainder of the ITS and does not simplify the presentation, the format proposed in the submittal is retained.

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RAI 3.7.10-2

DOC M.3
ITS 3.7.10 ACTION B
ITS 3.7.13 ACTIONS B and C
DOCs 3.7.13 M.2 and M.3

NRC RAI: The DOC states that ITS will require "compensatory measures" to be taken during the Completion Time of Required Action B.1. This action requirement is proposed to reside in the Bases, however. Follow reviewer's note for TSTF-287, R. 5 regarding a commitment to procedural compensatory measures when in Action B. In addition, this comment applies to ITS 3.7.13 ACTIONS B and C and DOCs M.2 and M.3.

Response: The Company will take the action proposed in the Comment. ITS 3.7.10, DOC M.3, and ITS 3.7.13, DOCs M.2 and M.3, are revised to state that the Company commits to having written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition B (ITS 3.7.10 and 3.7.13) and Condition C (ITS 3.7.13).

days, but not allowing the entire MCR/ESGR EVS to be inoperable for 7 days.

The purpose of CTS 3.7.7.1 Action a. is to allow a reasonable time to respond to the loss of part of the MCR/ESGR EVS. This change is acceptable because it better represents inoperabilities that the MCR/ESGR EVS can sustain and still perform its safety function, while providing reasonable limits on the time that portions of the system are inoperable. This change is designated as more restrictive because it is more specific and limiting on what portions of the MCR/ESGR EVS may be inoperable for 7 days.

M.3 CTS 3.7.7.1 Action b states, "With both the emergency ventilation system and the bottled air pressurization system inoperable, restore at least one of these systems to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." ITS 3.7.10 Required Action B.1 requires that with two or more required LCO 3.7.10.a or LCO 3.7.10.b MCR/ESGR EVS trains inoperable due to an inoperable MSR/ESGR boundary in MODE 1, 2, 3, or 4, restore the MCR/ESGR boundary to OPERABLE status within 24 hours. The Bases for Required Action B.1 state, "During the period that the MCR/ESGR boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition." A Reviewer's Note to TSTF-287, Rev. 5, states, "Adoption of Condition B is dependent on a commitment from the licensee to have written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition B." The Company commits to having written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition B. ITS 3.7.10 Condition C requires that if the Required Actions and associated Completion Time of Condition A or B are not met, the unit be in MODE 3 in 6 hours, and MODE 5 in 36 hours. ITS LCO 3.0.3 allows 7 hours to place the unit in MODE 3, and 37 hours to place the unit in MODE 5. This changes CTS by not providing a Completion time of 24 hours when the two or more required MCR/ESGR EVS trains and two or more required MCR/ESGR bottled air trains are inoperable at the same time, except for an inoperable MCR/ESGR boundary. This also changes CTS by requiring compensatory measures be taken while the MCR/ESGR boundary is inoperable. This results in allowing 23 fewer hours to place the unit in MODE 3 and MODE 5, and requires additional compensatory actions be taken.

RAI 3.7.10-2 R 10

The purpose of CTS 3.7.7.1 Action b is to limit the time that the unit is without the ability to maintain the MCR/ESGR envelope air habitable. The change still allows 24 hours to repair the MCR/ESGR boundary. This is reasonable based on the low probability of a DBA occurring during this time period, and the capability of the MCR/ESGR EVS and compensatory actions to provide some degree of protection should an event occur. This change is acceptable because the time during which the

ADMINISTRATIVE CHANGES

A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.7.7.1 requires the bottled air pressurization system to be OPERABLE. ITS 3.7.13 states, "Three MCR/ESGR bottled air system trains shall be OPERABLE." This changes CTS by specifying the number of MCR/ESGR bottled air system trains required to be OPERABLE.

The purpose of CTS 3.7.7.1 is to provide assurance that the equipment necessary to maintain MCR/ESGR habitability is OPERABLE. This change is acceptable because it clarifies what is required of the systems by the safety analysis and plant design. These requirements were not explicitly stated in the CTS. This change is designated as more restrictive because it is more specific regarding what system components are required to be OPERABLE.

M.2 CTS 3.7.7.1 Action a states, "With either the emergency ventilation system or the bottled air pressurization system inoperable, restore the inoperable system to OPERABLE status within 7 days..." CTS 3.7.7.1 Action b states, "With both the emergency ventilation system and the bottled air pressurization system inoperable, restore at least one of these systems to OPERABLE status within 24 hours." ITS 3.7.13 Condition A states, "One required MCR/ESGR bottled air system train inoperable." ITS Required Action A.1 states, "Restore train to OPERABLE status," within 7 days. ITS 3.7.13 Required Action C.1 is added, allowing 24 hours to restore at least two MCR/ESGR bottled air system trains to OPERABLE status if two or more required trains are inoperable for reasons other than an inoperable MCR/ESGR boundary. The Bases for Required Action C.1 state, "During the period that two or more required trains of the MCR/ESGR bottled air system are inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition." ITS 3.7.13 is based on ISTS 3.7.10. A Reviewer's Note to ISTS 3.7.10 in TSTF-287, Rev. 5, states, "Adoption of Condition B is dependent on a commitment from the licensee to have written procedures available describing compensatory measures to be taken in the

RAI 3.7.10-2 R10

RAI 3.7.10-2 R10

event of an intentional or unintentional entry into Condition B." The Company commits to having written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition B. This changes CTS by allowing only one required train of the MCR/ESGR EVS and MCR/ESGR bottled air system to be inoperable for 7 days, and allowing two or more required trains of the MCR/ESGR bottled air system to be inoperable for any reason for 24 hours instead of 7 days. This also changes CTS by requiring compensatory measures be taken while two or more trains of the MCR/ESGR bottled air system are inoperable. Not allowing both the MCR/ESGR EVS and MCR/ESGR bottled air system to be inoperable concurrently for 24 hours except for an inoperable MCR/ESGR boundary is addressed by DOC M.3.

The purpose of CTS 3.7.7.1 Action a. is to allow a reasonable time to respond to the loss of part of the MCR/ESGR bottled air system. This change is acceptable because it better represents inoperabilities that the MCR/ESGR bottled air system can sustain and still perform its safety function, while providing reasonable limits on the time that portions of the system are inoperable. With two required trains of the MCR/ESGR bottled air system OPERABLE, the MCR/ESGR bottled air system can still keep exposure in the MCR/ESGR envelope within limits. The change is also acceptable based on the low probability of a DBA occurring during the time period two or more required MCR/ESGR bottled air system trains are inoperable, and compensatory actions to provide some degree of protection should an event occur. This change is designated as more restrictive because it is more specific and limiting on what portions of the MCR/ESGR bottled air system may be inoperable for 7 days, only allows the MCR/ESGR bottled air system to be completely inoperable for 24 hours, and the requirement is added for compensatory actions when two or more required trains of the MCR/ESGR bottled air system are inoperable.

M.3 CTS 3.7.7.1 Action b states, "With both the emergency ventilation system and the bottled air pressurization system inoperable, restore at least one of these systems to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." ITS 3.7.13 Required Action B.1 requires that with two or more required MCR/ESGR bottled air system trains inoperable due to an inoperable MSR/ESGR boundary in MODE 1, 2, 3, or 4, restore the MCR/ESGR boundary to OPERABLE status within 24 hours. The Bases for Required Action B.1 state, "During the period that the MCR/ESGR boundary is inoperable, appropriate compensatory measures (consistent with the intent of GDC 19) should be utilized to protect control room operators from potential hazards such as radioactive contamination. Preplanned measures should be available to address these concerns for intentional and unintentional entry into the condition." ITS 3.7.13 is based on ISTS 3.7.10. A Reviewer's Note to ISTS 3.7.10 in TSTF-287, Rev. 5, states, "Adoption of Condition B [C in ITS 3.7.13] is dependent on a commitment from the licensee to have written procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition B [C in ITS 3.7.13]." The Company commits to having written

RAI 3.7.10-2 R10

RAI 3.7.10.2 R10

procedures available describing compensatory measures to be taken in the event of an intentional or unintentional entry into Condition C. ITS 3.7.13 Condition D requires that if the Required Actions and associated Completion Time of Condition A, B or C are not met, the unit be in MODE 3 in 6 hours, and MODE 5 in 36 hours. This changes CTS by not providing a Completion time of 24 hours when the two or more required MCR/ESGR EVS trains and two or more required MCR/ESGR bottled air trains are inoperable at the same time, except for an inoperable MCR/ESGR boundary. This also changes CTS by requiring compensatory measures be taken while the MCR/ESGR boundary is inoperable. This results in 23 fewer hours allowed to place the unit in MODE 3 and MODE 5, and requires additional compensatory actions be taken.

The purpose of CTS 3.7.7.1 Action b is to limit the time that the unit is without the ability to maintain the MCR/ESGR envelope air habitable. The change still allows 24 hours to repair the MCR/ESGR boundary. This is reasonable based on the low probability of a DBA occurring during this time period, and the ability of the MCR/ESGR EVS and compensatory actions to provide some degree of protection should an event occur. This change is acceptable because the time during which the system function can not be met because the required MCR/ESGR EVS and MCR/ESGR bottled air system trains are inoperable should be minimized, and compensatory measures can be taken. This change is designated as a more restrictive change because the Completion Time for performing a Required Action has been reduced, and the requirement is added for compensatory actions when the MCR/ESGR boundary is inoperable.

M.4 ITS 3.7.13 Applicability includes, "During movement of recently irradiated fuel assemblies." ITS 3.7.13 Condition E requires movement of recently irradiated fuel assemblies be stopped immediately if, "Required Action and associated Completion Time of Condition A not met during movement of recently irradiated fuel assemblies OR Two or more required MCR/ESGR bottled air system trains inoperable during movement of recently irradiated fuel assemblies." CTS 3.7.7.1 does not include this Applicability or these Required Actions. This changes CTS by adding a new Applicability and associated Required Actions.

The purpose of CTS 3.7.7.1 is to provide assurance that the MCR/ESGR envelope environment is protected during a DBA. This change is acceptable because the MCR/ESGR bottled air system function is assumed in the DBA analysis for a fuel handling accident. This change adds the appropriate Applicability and Required Actions for these assumed initial conditions in the DBA analysis. This change is designated as more restrictive because the LCO requirements are applicable in more conditions than in the CTS, and associated Required Actions are added.

M.5 CTS 4.7.7.1 states, "Each control room emergency ventilation system shall be demonstrated OPERABLE:...d. At least once per 18 months by:...2. Verifying that the normal air supply and exhaust are automatically shutdown on a Safety Injection

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RAI 3.7.11-1
*BSI-18a DOCs M.1, M.3
JFD 3
ITS 3.7.11 ACTIONS D and E
CTS 3/4.7.7.1 Action d

NRC RAI: The ITS proposes to only require entry into ACTION A, for one AC subsystem inoperable, as long as 100% ACS cooling equivalent to a single operable AC subsystem is available. This would allow components from both subsystems to be used to meet this capability. Although STS 3.5.2 ACTIONS contain a similar allowance, the Rev. 2 STS 3.7.11 ACTIONS do not allow this; neither do the CTS. Therefore, this is a new beyond-scope change.

*This comment is for tracking purposes and no response to it is required. This item was not contained in Attachment 4 to the submittal cover letter, but has been numbered 18a by the staff as a BSI.

Comment: The following points should be addressed in the resolution of this item:

(a) DOC M.1 and M.3 are not as clear as JFD 3 about what the ITS would allow if components from both subsystems are inoperable.

(b) Comparing the ITS 3.7.11 ACTIONS to the STS 3.5.2 ACTIONS, it seems that ACTION A should read "One or more required MCR/ESGR ACS subsystems inoperable."

(c) This change may be generic and should be considered for the STS.

Response: No response is required. However, the Company will take the actions proposed in the comment, with certain modifications. DOCs M.1 and M.3 will be modified to more accurately reflect the requirements of Conditions D and E, consistent with JFD 3. ITS 3.7.11, Condition A, will be modified to add "or more" as suggested. While aspects of this change may be generic, we believe that the presentation in STS 3.7.11 is representative of a greater percentage of plant designs and the Company does not plan to propose this as a generic change.

It should be noted that the CTS does include the allowance described here. One subsystem has two chillers and either chiller can be used to support an OPERABLE subsystem.

3.7 PLANT SYSTEMS

3.7.11 Main Control Room/Emergency Switchgear Room (MCR/ESGR) Air Conditioning System (ACS)

LCO 3.7.11 Two MCR/ESGR ACS subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of recently irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more required MCR/ESGR ACS subsystem inoperable.	A.1	Restore MCR/ESGR ACS subsystem to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours
C. Required Action and associated Completion Time of Condition A not met during movement of recently irradiated fuel assemblies.	C.1	Place OPERABLE MCR/ESGR ACS subsystem in operation.	Immediately
	OR		
	C.2	Suspend movement of recently irradiated fuel assemblies.	Immediately
D. Less than 100% of the MCR/ESGR ACS cooling equivalent to a single OPERABLE MCR/ESGR ACS subsystem available during movement of recently irradiated fuel assemblies.	D.1	Suspend movement of recently irradiated fuel assemblies.	Immediately

RAI 3.7.11-1 R10

BASES

APPLICABLE SAFETY ANALYSES (continued)

The MCR/ESGR ACS satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two independent and redundant subsystems of the MCR/ESGR ACS, providing cooling to the unit ESGR and associated portion of the MCR, are required to be OPERABLE to ensure that at least one is available, assuming a single failure disabling the other subsystem. Total system failure could result in the equipment operating temperature exceeding limits in the event of an accident.

The MCR/ESGR ACS is considered to be OPERABLE when the individual components necessary to cool the MCR/ESGR envelope air are OPERABLE in both required subsystems. Each subsystem consists of two air handling units (one for the MCR and one for the ESGR), one chiller, valves, piping, instrumentation and controls. The two subsystems provide air temperature cooling to the portion of the MCR/ESGR envelope associated with the unit. In addition, the MCR/ESGR ACS must be operable to the extent that air circulation can be maintained.

APPLICABILITY

In MODES 1, 2, 3, and 4, and during movement of recently irradiated fuel assemblies, the MCR/ESGR ACS must be OPERABLE to ensure that the MCR/ESGR envelope temperature will not exceed equipment operational requirements following isolation of the MCR/ESGR envelope. The MCR/ESGR ACS is only required to be OPERABLE during fuel handling involving handling recently irradiated fuel (i.e., fuel that has occupied part of a critical reactor core within a time frame established by analysis. The term recently is defined as all irradiated fuel assemblies, until analysis is performed to determine a specific time), due to radioactive decay.

ACTIONS

A.1

With one or more required MCR/ESGR ACS subsystem inoperable, and at least 100% of the MCR/ESGR ACS cooling equivalent to a single OPERABLE MCR/ESGR ACS subsystem available, action must be taken to restore OPERABLE status within 30 days. In this Condition, the remaining OPERABLE MCR/ESGR ACS subsystem is adequate to maintain the MCR/ESGR envelope temperature within limits. However, the overall reliability

RAI 3.7.11-1 R10

(continued)

CTS

3.7 PLANT SYSTEMS

3.7.11 Control Room Emergency Air Temperature Control System (CREAFCS)

3.7.7.1 LCO 3.7.11 Two CREAFCS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, 4, [5, and 6,]
During movement of irradiated fuel assemblies
[During CORE ALTERATIONS].

New

ACTIONS			
CONDITION		REQUIRED ACTION	COMPLETION TIME
3.7.7.1 Actions A. One CREAFCS train inoperable.	A.1	Restore CREAFCS train to OPERABLE status.	30 days
3.7.7.1 Actions B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours
NEW C. Required Action and associated Completion Time of Condition A not met [in MODE 5 or 6, or] during movement of irradiated fuel assemblies [, or during CORE ALTERATIONS].	C.1	Place OPERABLE CREAFCS train in operation.	Immediately
	OR		
	C.2.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	C.2 [2]	Suspend movement of irradiated fuel assemblies.	Immediately

(continued)

Rev. 10

providing cooling to the unit ESGR and associated portion of the MCR,

CREATCS B 3.7.11

MCR/ESGR

subsystems

LCO

Two independent and redundant trains of the CREATCS are required to be OPERABLE to ensure that at least one is available, assuming a single failure disabling the other train. Total system failure could result in the equipment operating temperature exceeding limits in the event of an accident.

Subsystem

cool

required subsystems

MCR/ESGR envelope

The CREATCS is considered to be OPERABLE when the individual components necessary to maintain the control room temperature are OPERABLE in both trains. These components include the heating and cooling coils and associated temperature control instrumentation. In addition, the CREATCS must be operable to the extent that air circulation can be maintained.

MCR/ESGR

air

INSERT 1

APPLICABILITY

In MODES 1, 2, 3, and 4, [5, and 6,] and during movement of irradiated fuel assemblies [and during CORE ALTERATIONS], the CREATCS must be OPERABLE to ensure that the control room temperature will not exceed equipment operational requirements following isolation of the control room.

and

TSTF-51

recently

MCR/ESGR envelope

MCR/ESGR

[In MODE 5 or 6,] CREATCS may not be required for those facilities that do not require automatic control room isolation.

INSERT 3

TSTF-51

ACTIONS

or more required

A.1

Subsystem

INSERT 3

MCR/ESGR

With one CREATCS train inoperable, action must be taken to restore OPERABLE status within 30 days. In this Condition, the remaining OPERABLE CREATCS train is adequate to maintain the control room temperature within limits. However, the overall reliability is reduced because a single failure in the OPERABLE CREATCS train could result in loss of CREATCS function. The 30 day Completion Time is based on the low probability of an event requiring control room isolation, the consideration that the remaining train can provide the required protection, and that alternate safety or nonsafety related cooling means are available.

PAI 3.7.11-1 R10

MCR/ESGR envelope

MCR/ESGR

Subsystem

INSERT 4

(continued)

Rev 10

ADMINISTRATIVE CHANGES

A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 ITS 3.7.11 Applicability includes, "During movement of recently irradiated fuel assemblies." ITS 3.7.11 Condition C is entered when the Required Action and associated Completion Time of Condition A is not met during movement of recently irradiated fuel assemblies. The Required Actions require either placing an OPERABLE MCR/ESGR ACS subsystem in operation or suspending movement of recently irradiated fuel assemblies. Condition D is entered when less than 100% of the MCR/ESGR ACS cooling equivalent to a single OPERABLE MCR/ESGR ACS subsystem is available during movement of recently irradiated fuel. Required Action D.1 requires suspending movement of recently irradiated fuel assemblies immediately. This changes CTS by adding an additional Applicability criteria and associated Conditions and Required Actions. RAI 3.7.11-1 R10

The purpose of ITS 3.7.11 is to provide assurance that the MCR/ESGR ACS is OPERABLE when required to perform its function. The system is required during movement of recently irradiated fuel assemblies. This change is acceptable because it provides this Applicability with associated Conditions and Required Actions to provide additional assurance that the MCR/ESGR ACS is available to perform its function when required. If portions of the MCR/ESGR ACS system are inoperable such that the equivalent to one OPERABLE subsystem is not OPERABLE, the safety function cannot be performed and movement of recently irradiated fuel assemblies must be stopped. This change is designated more restrictive because it adds an Applicability with associated Conditions and Required Actions. RAI 3.7.11-1 R10

M.2 CTS 4.7.7.3 states, "Each control room air-conditioning system shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to 120°F." ITS SR 3.7.11.1 states, "Verify each MCR/ESGR ACS chiller has the capability to remove the design heat load." The Frequency is every 18 months on a STAGGERED TEST BASIS. This changes CTS by replacing a temperature verification with a test to verify each MCR/ESGR ACS chiller has the capability to remove the design heat load. RAI 3.7.11-2 R10

The purpose of ITS SR 3.7.11.1 is provide assurance that each MCR/ESGR ACS subsystem has the capability to remove the design heat load in case of a DBA. This change is acceptable because it provides a better measure of whether the MCR/ESGR ACS subsystem can perform its safety function. The Frequency of 18 months on a STAGGERED TEST BASIS is acceptable because it is consistent with the design and testing history of the system. Chillers are the components in the system most likely to experience performance degradation over time and testing of the chillers has been conducted as part of the response to Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment. Plant maintenance history for the MCR/ESGR ACS components supports this approach of testing the most vulnerable portion of each subsystem. Performing the testing on a STAGGERED TEST BASIS is also consistent with the testing guidance, maintenance history, and testing history of the system, which has found that the chillers routinely pass their periodic design load testing. Other components do not require verification beyond that done for the chillers because the other active components such as air handlers do not typically degrade with time or use. Also, the system is in continuous use during normal operations, and failure of a component such as an air handler fan motor would be immediately apparent. This change is designated as a more restrictive change because CTS 4.7.7.3 is replaced with a more comprehensive Surveillance Requirement.

RAI 3.7.11-2 R10

M.3 CTS 3.7.7.1 Action d states, "With both the air conditioning systems inoperable, restore at least one system to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." ITS 3.7.11 Condition E states that with less than 100% of the MCR/ESGR ACS cooling equivalent to a single OPERABLE MCR/ESGR ACS subsystem available in MODES 1, 2, 3, or 4, enter LCO 3.0.3 immediately. ITS LCO 3.0.3 allows 7 hours to place the unit in MODE 3, and 37 hours to place the unit in MODE 5. This changes the CTS by allowing 23 hours less to place the unit in MODE 3 and MODE 5 if the equivalent of one MCR/ESGR ACS subsystem is not available. The change in the criteria for the systems is addressed in another more restrictive discussion of change.

RAI 3.7.11-1 R10

The purpose of CTS 3.7.7.1 Action d is to limit the time that the unit is without the ability to maintain the MCR/ESGR temperature within limits. This change is acceptable because with less than the equivalent of one MCR/ESGR ACS subsystem available, the system cannot perform its safety function. This change is designated as a more restrictive change because the Completion Time for performing a Required Action has been reduced.

RAI 3.7.11-1 R10

RELOCATED SPECIFICATIONS

None.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.11-2

DOC M.2
JFD 4
ITS SR 3.7.11.1

NRC RAI: The explicit acceptance criteria of the proposed SR differ from the corresponding SR in CTS and STS, and the Frequency of once per 54 months (same as 18 months on a staggered test basis for three trains) also differs from STS and CTS. Therefore, this is a beyond-scope change being reviewed under TACs MB1445 and MB1446. **Comment:** This comment is for tracking purposes and no response to it is required. This item is numbered 18 on Attachment 4 to the submittal cover letter. Note that DOC M.2 should discuss the Frequency change.

Response: No response is required. However, the Company will take the actions proposed in the comment. DOC M.2 is revised to discuss the change in Frequency.

ADMINISTRATIVE CHANGES

A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 ITS 3.7.11 Applicability includes, "During movement of recently irradiated fuel assemblies." ITS 3.7.11 Condition C is entered when the Required Action and associated Completion Time of Condition A is not met during movement of recently irradiated fuel assemblies. The Required Actions require either placing an OPERABLE MCR/ESGR ACS subsystem in operation or suspending movement of recently irradiated fuel assemblies. Condition D is entered when less than 100% of the MCR/ESGR ACS cooling equivalent to a single OPERABLE MCR/ESGR ACS subsystem is available during movement of recently irradiated fuel. Required Action D.1 requires suspending movement of recently irradiated fuel assemblies immediately. This changes CTS by adding an additional Applicability criteria and associated Conditions and Required Actions. RAI 3.7.11-1 R10

The purpose of ITS 3.7.11 is to provide assurance that the MCR/ESGR ACS is OPERABLE when required to perform its function. The system is required during movement of recently irradiated fuel assemblies. This change is acceptable because it provides this Applicability with associated Conditions and Required Actions to provide additional assurance that the MCR/ESGR ACS is available to perform its function when required. If portions of the MCR/ESGR ACS system are inoperable such that the equivalent to one OPERABLE subsystem is not OPERABLE, the safety function cannot be performed and movement of recently irradiated fuel assemblies must be stopped. This change is designated more restrictive because it adds an Applicability with associated Conditions and Required Actions. RAI 3.7.11-1 R10

M.2 CTS 4.7.7.3 states, "Each control room air-conditioning system shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to 120°F." ITS SR 3.7.11.1 states, "Verify each MCR/ESGR ACS chiller has the capability to remove the design heat load." The Frequency is every 18 months on a STAGGERED TEST BASIS. This changes CTS by replacing a temperature verification with a test to verify each MCR/ESGR ACS chiller has the capability to remove the design heat load. RAI 3.7.11-2 R10

The purpose of ITS SR 3.7.11.1 is provide assurance that each MCR/ESGR ACS subsystem has the capability to remove the design heat load in case of a DBA. This change is acceptable because it provides a better measure of whether the MCR/ESGR ACS subsystem can perform its safety function. The Frequency of 18 months on a STAGGERED TEST BASIS is acceptable because it is consistent with the design and testing history of the system. Chillers are the components in the system most likely to experience performance degradation over time and testing of the chillers has been conducted as part of the response to Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment. Plant maintenance history for the MCR/ESGR ACS components supports this approach of testing the most vulnerable portion of each subsystem. Performing the testing on a STAGGERED TEST BASIS is also consistent with the testing guidance, maintenance history, and testing history of the system, which has found that the chillers routinely pass their periodic design load testing. Other components do not require verification beyond that done for the chillers because the other active components such as air handlers do not typically degrade with time or use. Also, the system is in continuous use during normal operations, and failure of a component such as an air handler fan motor would be immediately apparent. This change is designated as a more restrictive change because CTS 4.7.7.3 is replaced with a more comprehensive Surveillance Requirement.

RAI 3.7.11-2 R10

M.3 CTS 3.7.7.1 Action d states, "With both the air conditioning systems inoperable, restore at least one system to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours." ITS 3.7.11 Condition E states that with less than 100% of the MCR/ESGR ACS cooling equivalent to a single OPERABLE MCR/ESGR ACS subsystem available in MODES 1, 2, 3, or 4, enter LCO 3.0.3 immediately. ITS LCO 3.0.3 allows 7 hours to place the unit in MODE 3, and 37 hours to place the unit in MODE 5. This changes the CTS by allowing 23 hours less to place the unit in MODE 3 and MODE 5 if the equivalent of one MCR/ESGR ACS subsystem is not available. The change in the criteria for the systems is addressed in another more restrictive discussion of change.

RAI 3.7.11-1 R10

The purpose of CTS 3.7.7.1 Action d is to limit the time that the unit is without the ability to maintain the MCR/ESGR temperature within limits. This change is acceptable because with less than the equivalent of one MCR/ESGR ACS subsystem available, the system cannot perform its safety function. This change is designated as a more restrictive change because the Completion Time for performing a Required Action has been reduced.

RAI 3.7.11-1 R10

RELOCATED SPECIFICATIONS

None.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.12-1

ITS LCO 3.7.12 Note
JFD 4
DOC M.2

NRC RAI: The note contains the phrase "not open by design," which is not included in CTS or STS. Therefore, this is a beyond-scope change. **Comment:** This comment is for tracking purposes and no response to it is required. This item is numbered 19 on Attachment 4 to the submittal cover letter.

Response: No response required.

RAI 3.7.12-2

ITS SR 3.7.12.2 and SR 3.7.12.4
JFD 7
DOC M.1
CTS 4.7.8.1.a

NRC RAI: The referenced SRs differ from the corresponding SR in CTS and STS. Therefore, this is a beyond-scope change being reviewed under TACs MB1447 and MB1448. **Comment:** This comment is for tracking purposes and no response to it is required. This item is numbered 20 on Attachment 4 to the submittal cover letter.

Response: No response required.

RAI 3.7.13-1

See RAI 3.7.10-2

Response: See response to RAI 3.7.10-2.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.13-2

DOCs M.5 and LA.2
ITS SR 3.7.13.3
CTS 4.7.7.1.d.2

NRC RAI: The CTS explicitly requires verifying that the normal air supply and exhaust are shutdown on a safety injection signal. DOC M.5 says that verifying automatic actuation of each MCR/ESGR bottled air system train encompasses the CTS requirement, and does not, therefore, need to be stated in the ITS explicitly. However, the Bases for SR 3.7.13.3 does not make this statement. **Comment:** Revise the Bases to make clear the scope of the SR. (It is noted that the Bases Background discussion does point this out, but the SR should also state this.)

Response: The Company will take the action proposed in the Comment. The Bases of SR 3.7.13.3 are modified to state that SR 3.7.13.3 includes verification that the normal air supply and exhaust are isolated on an actual or simulated actuation signal.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.13.2

This SR verifies that the proper number of MCR/ESGR air bottles are in service, with one bank of 51 air bottles in each required train. This SR requires verification that each bottled air bank manual valve not locked, sealed, or otherwise secured and required to be open during accident conditions is open. This SR helps to ensure that the bottled air banks required to be OPERABLE to pressurize the MCR/ESGR boundary are in service. The 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. This SR does not apply to valves that are locked, sealed, or otherwise secured in the open position, since these were verified to be in the correct position prior to locking, sealing, or securing.

SR 3.7.13.3

This SR verifies that each required MCR/ESGR bottled air system train actuates by verifying the flow path is opened and that the normal air supply to and exhaust from the MCR/ESGR envelope is isolated on an actual or simulated actuation signal. The Frequency of 18 months is consistent with performing this test on a refueling interval basis.

RAI 3.7.13-2 R10

SR 3.7.13.4

This SR verifies, by pressurizing the MCR/ESGR envelope, the integrity of the MCR/ESGR envelope, and the assumed inleakage rates of the potentially contaminated air. The MCR/ESGR envelope positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the MCR/ESGR bottled air system. During the emergency mode of operation, the MCR/ESGR bottled air system is designed to pressurize the MCR/ESGR envelope to $\geq$ 0.05 inches water gauge positive pressure with respect to adjacent areas in order to prevent unfiltered inleakage. The MCR/ESGR bottled air system is designed to maintain this positive pressure with two trains for at least 60 minutes at a makeup flow rate of $\geq$ 340 cfm. Testing two trains at a time at the Frequency of 18 months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800 (Ref. 3).

SURVEILLANCE REQUIREMENTS

SR 3.7.10.1 (continued)

testing each train once every month provides an adequate check of this system. Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.] The 31 day Frequency is based on the reliability of the equipment and the two train redundancy availability.

See ITS 3.7.10

SR 3.7.10.2

This SR verifies that the required CREFS testing is performed in accordance with the [Ventilation Filter Testing Program (VFTP)]. The CREFS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The [VFTP] includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum flow rate, and the physical properties of the activated charcoal. Specific test Frequencies and additional information are discussed in detail in the [VFTP].

See ITS 3.7.14

RAI 3.7.13-2 R10

INSERT →

SR 3.7.10.3 (13) Each required MCR/ESGR bottled air system train actuates upon the normal air supply to and exhaust from the MCR/ESGR envelope is isolated (4)

This SR verifies that each CREFS train starts and operates on an actual or simulated actuation signal. The Frequency of [18] months is specified in Regulatory Guide 1.52 (Ref. 3).

by verifying the flow path is opened (2)

consistent with performing this test on a refueling interval basis (10) (9)

SR 3.7.10.4 (13)

, by pressurizing the MCR/ESGR envelope, (4)

This SR verifies the integrity of the control room enclosure, and the assumed inleakage rates of the potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper functioning of the CREFS. During the emergency mode of operation, the CREFS is designed to pressurize the control room ≥ [0.125] inches water gauge positive pressure with respect to adjacent areas in order to prevent unfiltered inleakage. The CREFS is designed to maintain this positive pressure

MCR/ESGR envelope (2)

MCR/ESGR bottled air system (2)

0.05 (1)

(continued)

Rev.10

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.13-3
ITS 3.7.13

NRC RAI: The Bases speak of four trains, while the LCO requires three. **Comment:** This is for tracking purposes of an assumed but yet not completed plant modification. This item may be closed upon notifying the staff the modification is complete.

Response: No response required.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.13-4

ITS 3.7.13 ACTIONS
ITS 3.7.10 ACTIONS
CTS 3/4.7.7.1 Actions a and b
DOCs 3.7.10 M.2, M.3, and especially L.4
DOCs 3.7.13 M.2 and especially L.1

NRC RAI: (a) CTS Action b does not discriminate which train(s) of the MCR/ESGR EVS and Bottled Air System are inoperable at the same time if parts of both systems are inoperable. Provide additional discussion to justify the ITS maintaining this allowance.

(b) CTS Action a does not specifically allow 7 days to restore an inoperable train of the EVS when one train of the Bottled Air System is also inoperable. But the ITS, by placing these systems in separate Specifications, would allow this. Provide additional discussion to justify the ITS adding this allowance. Should a shorter time be specified in each Specification if one EVS subsystem and one opposite train Bottled Air Subsystem are inoperable at the same time?

Note. Because the STS doesn't consider the Bottled Air System, it is uncertain whether the above noted differences from CTS are beyond scope. However, the ACTIONS for these two Specifications will be referred to Plant Systems Branch for review.

This item is numbered 24 on Attachment 4 to the submittal cover letter.

Additional questions may follow from tech staff review.

Response: The North Anna control room ventilation system consists of two separate systems, the Bottled Air System and the MCR/ESGR EVS. These systems perform different functions and actuate at different times. The inoperability of one system does not render the other system inoperable. Therefore, actions which address inoperabilities in both systems are not necessary. The Required Actions in each Specification provide the appropriate compensatory measures.

The proposed Completion Time is appropriate because with one train of the MCR/ESGR EVS and one train of the Bottled Air System inoperable, the safety function can still be performed. When portions of the control room ventilation system are inoperable, but the safety function can still be performed, STS 3.7.10, ACTION A, allows a 7 day Completion Time. Therefore, a 7 day Completion Time is appropriate for this situation in the North Anna ITS.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.15 -1
BSI-27 DOC L.2
CTS 3/4.9.12
ITS 3.7.15

NRC RAI: ITS omits the CTS filtration functional requirements for the Fuel Building Ventilation System which is contrary to corresponding STS 3.7.13. Therefore, this change is a beyond-scope change being reviewed under TACs MB1449 and MB1450. **Comment:** This comment is for tracking purposes and no response to it is required. This item is numbered 27 on Attachment 4 to the submittal cover letter.

Response: No response required.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.15-2

DOCs A.3, L.1 and L.3
CTS 3/4.9.12 Applicability

NRC RAI: ITS 3.7.15 Applicability adds the word "recently" to CTS Applicability a, and deletes CTS Applicability b. DOC L.3 justifies the former change; DOC L.3 justifies the later change.
Comment: Delete DOC A.3.

Response: The Company does not agree with the action recommended in the Comment. DOC A.3 documents the change in the Applicability from "spent fuel pit" to "fuel building," and should be retained.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.15-3

DOC L.3
CTS 3/4.9.12 Applicability b

NRC RAI: Explain the removal of this Applicability in the context of relocating the heavy loads requirements from CTS.

Response: LCOs are applicable in conditions in which the restriction is needed to prevent or mitigate an accident previously evaluated. According to the Bases, the accident of concern for this LCO is a fuel handling accident. Movement of heavy loads is not an initiator to a fuel handling accident. Therefore, this LCO is not applicable during movement of heavy loads.

All requirements regarding the movement of heavy loads over the spent fuel pool have been eliminated from the STS because movement of heavy loads over the spent fuel pool is adequately controlled by licensee programs which implement NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," and Generic Letter 81-07.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3.7.16-1

CTS 3/4.9.11 Actions regarding suspending movement of loads over the spent fuel pool
DOC L.2

NRC RAI: Explain the removal of this action requirement in the context of relocating heavy loads requirements from CTS.

Response: The purpose of Required Actions is to direct restoration of compliance with the LCO or to require compensatory measures which prevent occurrence of an accident for which the LCO is required for mitigation. The CTS action to suspend movement of heavy loads over the spent fuel pool does not restore compliance with the LCO and does not prevent a fuel handling accident as the accident analysis does not assume a fuel handling accident is initiated by movement of a heavy load over the spent fuel pool. DOC L.2 is modified to specifically address the elimination of the CTS actions.

the racks that hold the spent fuel. A key assumption in the analysis is that there is ≥ 23 feet of water over the damaged assembly, as this depth is directly related to the clean up of the fission products before release to the spent fuel pool atmosphere. A fuel handling accident can only occur when an irradiated fuel assembly is being moved. Therefore, the ITS imposes the controls on minimum spent fuel pool water level during the movement of irradiated fuel assemblies in the fuel storage pool. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.9.11 ACTION states that when the spent fuel pool water level is not met, suspend all movement of fuel assemblies and crane operations with loads in the spent fuel pit areas and place the load in a safe condition, and restore the water level to within its limit within 4 hours. The CTS also states that Specification 3.0.3 is not applicable. ITS 3.7.16 REQUIRED ACTION A.1 states that when fuel storage pool water level is not within limit, immediately suspend movement of irradiated fuel assemblies in the fuel storage pool. A NOTE to REQUIRED ACTION A.1 states that LCO 3.0.3 is not applicable. This changes the CTS requiring the suspension of movement of only irradiated fuel, by eliminating actions related to crane operation over the spent fuel pool and eliminating the requirement to restore the water level within 4 hours.

The purpose of the CTS 3.9.11 Action is to preclude a fuel handling accident from occurring when the initial conditions for that accident are not met. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. The only initiator to a fuel handling accident assumed in the accident analysis is the dropping of an irradiated fuel assembly. Dropping a fuel assembly which has not been irradiated has no significant radiological effects and is not assumed in the fuel handling accident analysis. Therefore, stopping the handling of fuel assemblies which have not been irradiated when the spent fuel pool water level is less than the limit is not required. The dropping of loads onto fuel assemblies in the spent fuel pool is not an initiator to a fuel handling accident assumed in the accident analysis. The movement of heavy loads is addressed by the Company's response to NUREG-0612, Control of Heavy Loads at Nuclear Power Plants, and Generic Letter 81-07. Therefore, these activities are not restricted when the spent fuel pool water level is not within limit. The action to restore the spent fuel pool water level within 4 hours is replaced with an action to suspend movement of irradiated fuel assemblies immediately. ITS Section 1.3 defines an immediate completion time as, "When 'Immediately' is used as a Completion Time, the Required Action should be pursued without delay and in a

RAI 3.7.16-1 R10

controlled manner." This action is more appropriate because the possibility of a fuel handling accident should be eliminated as quickly as possible and the CTS does not supply an Action to follow if the water level is not restored within 4 hours because LCO 3.0.3 does not apply. The ITS Action requires actions to start and be continued until the LCO is no longer applicable. Once movement of irradiated fuel assemblies is stopped, the LCO is no longer applicable and no restoration actions are needed. Compliance with the LCO would need to be established prior to restarting irradiated fuel movement. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

RAI 3.7.16-1 R10

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3/4.7.3-1
BSI-15 DOC R.1 for CTS 3/4.7.3.1 and CTS 3/4.7.3.2

NRC RAI: The non-adoption of STS 3.7.7, Component Cooling Water, and relocation of CTS 3/4.7.3.1 and 3/4.7.3.2 for the CCW system (operating and shutdown), is a beyond-scope change being reviewed under TACs MB1439 and MB1440.

This comment is for tracking purposes and no response to it is required. This item is numbered 15 on Attachment 4 to the submittal cover letter.

Response: No response required.

NAPS Responses to NRC Requests for Additional Information
ITS Section 3.7, Plant Systems

RAI 3/4.7.5-1
BSI-16 3.7.5.1.b; 3.7.5.1 Actions; and 4.7.5.1 for the North Anna Reservoir

NRC RAI: The CTS consider the North Anna Reservoir to be one of two ultimate heat sinks at North Anna. Relocating it is considered a beyond-scope change being reviewed under TACs MB1451 and MB1452.

This comment is for tracking purposes and no response to it is required. This item is numbered 16 on Attachment 4 to the submittal cover letter.

Response: No response required.

RAI 3/4.7.12-1

DOC R.1 for CTS 3/4.7.12, Settlement of Class 1 Structures

NRC RAI: See RAI 3.7.8-4 regarding this relocation.

Response: See the response to RAI 3.7.8-4.

Changes Not Associated With RAI Responses
ITS Section 3.7, Plant Systems

1. JFD 1 of ITS 3.7.16 stated that ISTS 3.7.15 and 3.7.16 are not adopted. Revision 2 to the North Anna ITS Submittal adopted ISTS 3.7.15 and 3.7.16. Therefore, JFD 1 is deleted.

R10

1. Not used.

2. The North Anna ITS contains specifications that do not appear in the ISTS. ISTS Specification 3.7.15, Fuel Storage Pool Water Level, has been has been renumbered 3.7.16 in the North Anna ITS in order to accommodate those additional specifications.

Changes Not Associated With RAI Responses
ITS Section 3.7, Plant Systems

2. TSTF-36 is incorporated into ITS 3.7.15, Fuel Building Ventilation System.

3. ITS 3.7.15 is modified to correct the placement of the Note added by TSTF-287. The Note is moved from the ACTIONS to the LCO. The Bases are correct.

3.7 PLANT SYSTEMS

3.7.15 Fuel Building Ventilation System (FBVS)

LCO 3.7.15 The FBVS shall be OPERABLE and in operation.

NOTE

The fuel building boundary may be opened intermittently under administrative control. R10

APPLICABILITY: During movement of recently irradiated fuel assemblies in the fuel building.

ACTIONS

NOTE

LCO 3.0.3 is not applicable. R10

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. FBVS inoperable. OR FBVS not in operation.	A.1 Suspend movement of recently irradiated fuel assemblies in the fuel building.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.15.1	Verify the FBVS can maintain a pressure $\leq$ -0.125 inches water gauge with respect to atmospheric pressure.	18 months

BASES

LCO

The FBVS is required to be OPERABLE and at least one fan in operation. Total system failure could result in the atmospheric release from the fuel building exceeding the 10 CFR 50, Appendix A, GDC-19 (Ref. 4) limits in the event of a fuel handling accident involving handling recently irradiated fuel.

The FBVS is considered OPERABLE when the individual components are OPERABLE. The FBVS is considered OPERABLE when at least one fan is OPERABLE, the associated FBVS ductwork, valves, and dampers are OPERABLE, and air circulation can be maintained.

The LCO is modified by a Note allowing the fuel building boundary to be opened intermittently under administrative controls. For entry and exit through doors the administrative control of the opening is performed by the person(s) entering or exiting the area. For other openings, these controls consist of stationing a dedicated individual at the opening who is in continuous communication with the control room. This individual will have a method to rapidly close the opening when a need for fuel building isolation is indicated.

APPLICABILITY

During movement of recently irradiated fuel in the fuel handling area, the FBVS is required to be OPERABLE to alleviate the consequences of a fuel handling accident.

ACTIONS

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3 while in MODE 1, 2, 3, or 4, would require the unit to be shutdown unnecessarily. R10

A.1

When the FBVS is inoperable or not in operation during movement of recently irradiated fuel assemblies in the fuel building, action must be taken to place the unit in a condition in which the LCO does not apply. Action must be

(continued)

TSTF-287 | R10

CTS

3.9.12

New

Action a

--- Note ---
The fuel building boundary may be opened intermittently under administrative control.

FBVS

FBACS

3.7 PLANT SYSTEMS (Ventilation)

3.7.13 Fuel Building (Air Cleanup) System (FBACS)

LCO 3.7.13 (Two FBACS trains) shall be OPERABLE (and in operation)

(The FBVS)

APPLICABILITY: [MODES 1, 2, 3, and 4,]
During movement of irradiated fuel assemblies in the fuel building. (recently)

TSTF-51

TSTF-36 | R10

Action C

--- NOTE ---
LCO 3.0.3 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One FBACS train inoperable.	A.1	Restore FBACS train to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4. OR Two FBACS trains inoperable in MODE 1, 2, 3, or 4.	B.1 AND B.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
C. Required Action and associated Completion Time [of Condition A] not met during movement of irradiated fuel assemblies in the fuel building.	C.1 OR C.2	Place OPERABLE FBACS train in operation. Suspend movement of irradiated fuel assemblies in the fuel building.	Immediately Immediately

(continued)

Rev. 10

FBVS → FBACS

B 3.7 (12) (15)

(1)

BASES (continued)

APPLICABILITY

In MODE 1, 2, 3, or 4, the FBACS is required to be OPERABLE to provide fission product removal associated with ECCS leaks due to a LOCA and leakage from containment and annulus.

(6)

In MODE 5 or 6, the FBACS is not required to be OPERABLE since the ECCS is not required to be OPERABLE.

During movement of irradiated fuel in the fuel handling area, the FBACS is required to be OPERABLE to alleviate the consequences of a fuel handling accident.

Insert → recently

TSTF-51

TSTF-36 | R10

ACTIONS

A.1

With one FBACS train inoperable, action must be taken to restore OPERABLE status within 7 days. During this period, the remaining OPERABLE train is adequate to perform the FBACS function. The 7 day Completion Time is based on the risk from an event occurring requiring the inoperable FBACS train, and the remaining FBACS train providing the required protection.

B.1 and B.2

In MODE 1, 2, 3, or 4, when Required Action A.1 cannot be completed within the associated Completion Time, or when both FBACS trains are inoperable, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 3 within 6 hours, and in MODE 5 within 36 hours. The Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

(4)

C.1 and C.2

When Required Action A.1 cannot be completed within the required Completion Time, during movement of irradiated fuel assemblies in the fuel building, the OPERABLE FBACS train must be started immediately or fuel movement suspended. This action ensures that the remaining train is OPERABLE.

(continued)

Rev. 10

INSERT

LCO 3.0.3 is not applicable while in MODE 5 or 6. However, since irradiated fuel assembly movement can occur in MODE 1, 2, 3, or 4, the ACTIONS have been modified by a Note stating that LCO 3.0.3 is not applicable. If moving irradiated fuel assemblies while in MODE 5 or 6, LCO 3.0.3 would not specify any action. If moving irradiated fuel assemblies while in MODE 1, 2, 3, or 4, the fuel movement is independent of reactor operations. Entering LCO 3.0.3, while in MODE 1, 2, 3, or 4, would require the unit to b shutdown unnecessarily.

R10

ITS

REFUELING OPERATIONS

FUEL BUILDING VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.15

3.9.12 A fuel building ventilation system shall be OPERABLE and discharging through at least one auxiliary building HEPA filter and charcoal adsorber assembly.

L.2

APPLICABILITY:

L.1 | R10

a. During irradiated fuel movement within the spent fuel pit or fuel building

A.3

b. During crane operation with loads over irradiated fuel in the spent fuel pit.

L.3

ACTION:

---NOTE---

The fuel building boundary may be opened intermittently under administrative control

A.2 | R10

3.7.15

a. With a fuel building ventilation system inoperable, irradiated fuel movement within the storage pool or crane operation with loads over the spent fuel pit may proceed provided the fuel building ventilation system is in operation and discharging through at least one train of HEPA filters and charcoal adsorber assemblies.

L.3

L.2

Action A.1

b. With no fuel building ventilation system OPERABLE, suspend all operations involving movement of irradiated fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one fuel building ventilation system is restored to OPERABLE status.

recently

L.1

L.3

Action note

c. The provisions of Specifications 3.0.3, 3.0.4 and 4.0.4 are not applicable.

A.4 | R10

SURVEILLANCE REQUIREMENTS

4.9.12 The above required fuel building ventilation system shall be demonstrated OPERABLE and discharging through at least one auxiliary building HEPA filter and charcoal adsorber assembly:

L.2

a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber assembly for 15 minutes

L.2

SR 3.7.15.1

b. At least once per 18 months during system operation, by verifying a 1/8 inch vacuum, water gauge, relative to the outside atmosphere, and

c. By performance of the Surveillance Requirements of Specification 4.7.8.1 b, c, d, e and f.

L.2

(A.1)

ITS 3.7.15

8-21-80

ITS

REFUELING OPERATIONS

FUEL BUILDING VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

---------- Note ----------
The fuel building boundary may be opened intermittently under administrative control.

(A.2) | RIO

3.7.15

3.9.12 A fuel building ventilation system shall be OPERABLE and discharging through at least one auxiliary building HEPA filter and charcoal adsorber assembly.

(L.2)

APPLICABILITY: (recently) (fuel building)

(L.1)

a. During irradiated fuel movement within the spent fuel pit, or (A.3)

b. During crane operation with loads over irradiated fuel in the spent fuel pit. (L.3)

ACTION:

3.7.15

a. With a fuel building ventilation system inoperable, irradiated fuel movement within the storage pool or crane operation with loads over the spent fuel pit may proceed provided the fuel building ventilation system is in operation and discharging through at least one train of HEPA filters and charcoal adsorber assemblies. (L.3) (L.2)

Action A.1

b. With no fuel building ventilation system OPERABLE, suspend all operations involving movement of irradiated fuel within the spent fuel pit or crane operation with loads over the spent fuel pit until at least one fuel building ventilation system is restored to OPERABLE status. (recently) (L.1) (L.3)

Action note

c. The provisions of Specifications 3.0.3, 3.0.4 and 4.0.4 are not applicable. (A.4) | RIO

SURVEILLANCE REQUIREMENTS

4.9.12 The above required fuel building ventilation system shall be demonstrated OPERABLE and discharging through at least one auxiliary building HEPA filter and charcoal adsorber assembly. (L.2)

a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber assembly for 15 minutes, (L.2)

b. At least once per 18 months during system operation, by verifying a 1/8 inch vacuum, water gauge, relative to the outside atmosphere, and

SR 3.7.15.1

c. By performance of the Surveillance Requirements of Specification 4.7.8.1 b, c, d, e and f. (L.2)

ADMINISTRATIVE CHANGES

A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A.2 The ITS LCO 3.7.15 Note states, "The fuel building boundary may be opened intermittently under administrative control." This allowance is not explicitly stated in CTS 3.9.12, but plant practice allows opening of the boundary under administrative controls for specific purposes such as fuel building access.

This change is acceptable because it reflects an existing plant practice necessary for the safe operation of the unit. This change is designated as administrative because it does not result in technical changes to the CTS.

A.3 CTS 3.9.12 refers to irradiated fuel movement within the "spent fuel pit." ITS 3.7.15 refers to recently irradiated fuel movement within the fuel building. This changes the CTS by changing the reference to the location of the fuel movement.

This change is acceptable because all the fuel movement within the fuel building occurs within the spent fuel pit, and requirements associated with the fuel movements remain the same. This change is designated as administrative because it does not result in technical changes to the CTS.

A.4 CTS 3.9.12 Action c. states, "The provisions of Specification 3.0.3, 3.0.4 and 4.0.4 are not applicable." ITS 3.7.15 ACTION Note states, "LCO 3.0.3 is not applicable." ITS LCO 3.0.4, the equivalent of CTS 3.0.4, states, "LCO 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4." ITS SR 3.0.4, the equivalent of CTS 4.0.4, states, "SR 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4." This changes CTS by deleting reference to an allowance already provided in a different portion of the ITS. | R10

This change is acceptable because ITS LCO 3.0.4 and ITS SR 3.0.4 requirements are consistent with those stated in the CTS. This change is designated as administrative because it does not result in technical changes to the CTS. | R10

MORE RESTRICTIVE CHANGES

4. The Bases of LCO 3.7.8, Service Water, are modified to clarify the requirements for Service Water reservoir spray arrays and the alignments needed to protect against a single failure in the actuation circuitry.

B 3.7 PLANT SYSTEMS

B 3.7.8 Service Water (SW) System

BASES

BACKGROUND

The SW System provides a heat sink for the removal of process and operating heat from safety related components during a Design Basis Accident (DBA) or transient. During normal operation, and a normal shutdown, the SW System also provides this function for various safety related and nonsafety related components. The safety related function is covered by this LCO.

The SW System is common to Units 1 and 2 and is designed for the simultaneous operation of various subsystems and components of both units. The source of cooling water for the SW System is the Service Water Reservoir. The SW System consists of two loops and components can be aligned to operate on either loop. There are four main SW pumps taking suction on the Service Water Reservoir, supplying various components through the supply headers, and then returning to the Service Water Reservoir through the return headers. Eight spray arrays are available to provide cooling to the service water, as well as two winter bypass lines. The isolation valves on the spray array lines automatically open, and the isolation valves on the winter bypass lines automatically shut, following receipt of a Safety Injection signal. The main SW pumps are powered from the four emergency buses (two from each unit). There are also two auxiliary SW pumps which take suction on North Anna Reservoir and discharge to the supply header. When the auxiliary SW pumps are in service, the return header may be redirected to waste heat treatment facility if desired. However, the auxiliary SW pumps are strictly a backup to the normal arrangement and are not credited in the analysis for a DBA. R10

During a design basis loss of coolant accident (LOCA) concurrent with a loss of offsite power to both units, one SW loop will provide sufficient cooling to supply post-LOCA loads on one unit and shutdown and cooldown loads on the other unit. During a DBA, the two SW loops are cross-connected at the recirculation spray (RS) heat exchanger supply and return headers of the accident unit. On a Safety Injection (SI) signal on either unit, all four main SW pumps start and the system is aligned for Service Water Reservoir spray operation. On a containment high-high

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

The SW System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Two SW loops are required to be OPERABLE to provide the required redundancy to ensure that the system functions to remove post accident heat loads, assuming that the worst case single active failure occurs coincident with the loss of offsite power.

A SW loop is considered OPERABLE during MODES 1, 2, 3, and 4 when:

a. Two SW pumps are OPERABLE in an OPERABLE flow path; R10

b. Three spray arrays are OPERABLE in an OPERABLE flow path; and

c. The associated piping, valves, and instrumentation and controls required to perform the safety related function are OPERABLE.

For two SW loops to be considered OPERABLE during MODES 1, 2, 3, and 4, the following conditions must also be met in order to provide protection for a single active failure of the actuation circuitry: R10

a. With one SW pump operating on each SW loop, the operating pumps have opposite train designations; and

b. With one of the four spray arrays on each SW loop inoperable, the inoperable spray arrays have opposite train designations.

A required valve directing flow to a spray array, bypass line, or other component is considered OPERABLE if it is capable of automatically moving to its safety position or if it is administratively placed in its safety position.

APPLICABILITY

In MODES 1, 2, 3, and 4, the SW System is a normally operating system that is required to support the OPERABILITY of the equipment serviced by the SW System and required to be OPERABLE in these MODES.

(continued)

INSERT

The SW System is common to Units 1 and 2 and is designed for the simultaneous operation of various subsystems and components of both units. The source of cooling water for the SW System is the Service Water Reservoir. The SW System consists of two loops and components can be aligned to operate on either loop. There are four main SW pumps taking suction on the Service Water Reservoir, supplying various components through the supply headers, and then returning to the Service Water Reservoir through the return headers. Eight spray arrays are available to provide cooling to the service water, as well as two winter bypass lines. The isolation valves on the spray array lines automatically open, and the isolation valves on the winter bypass lines automatically shut, following receipt of a Safety Injection signal. The main SW pumps are powered from the four emergency buses (two from each unit). There are also two auxiliary SW pumps which take suction on North Anna Reservoir and discharge to the supply header. When the auxiliary SW pumps are in service, with the return header may be redirected to waste heat treatment facility if desired. However, the auxiliary SW pumps are strictly a backup to the normal arrangement and are not credited in the analysis for a DBA.

R10

During a design basis loss of coolant accident (LOCA) concurrent with a loss of offsite power to both units, one SW loop will provide sufficient cooling to supply post-LOCA loads on one unit and shutdown and cooldown loads on the other unit. During a DBA, the two SW loops are cross-connected at the recirculation spray (RS) heat exchanger supply and return headers of the accident unit. On a Safety Injection (SI) signal on either unit, all four main SW pumps start and the system is aligned for Service Water Reservoir spray operation. On a containment high-high pressure signal the accident unit's component cooling water (CC) heat exchangers are isolated from the SW System and its RS heat exchangers are placed into service. All safety-related systems or components requiring cooling during an accident are cooled by the SW System, including the RS heat exchangers, main control room air conditioning condensers, and charging pump lubricating oil and gearbox coolers.

The SW System also provides cooling to the instrument air compressors, which are not safety-related, and the non-accident unit's CC heat exchangers, and serves as a backup water supply to the Auxiliary Feedwater System, the spent fuel pool coolers, and the containment recirculation air cooling coils. The SW System has sufficient redundancy to withstand a single failure, including the failure of an emergency diesel generator on the affected unit.

BASES

APPLICABLE SAFETY ANALYSES (continued)

The SW, in conjunction with the CCW System, also cools the unit from residual heat removal (RHR), as discussed in the FSAR, Section [5.4.7] (Ref. 3) entry conditions to MODE 5 during normal and post accident operations. The time required for this evolution is a function of the number of CCW and RHR System trains that are operating. One SW train is sufficient to remove decay heat during subsequent operations in MODES 5 and 6. This assumes a maximum SWS temperature of [95]°F occurring simultaneously with maximum heat loads on the system. 10 CFR 50.36(c)(2)(ii)

5.5.4

System

The SW satisfies Criterion 3 of the NRC Policy Statement.

LCO

Two SWS trains loops are required to be OPERABLE to provide the required redundancy to ensure that the system functions to remove post accident heat loads, assuming that the worst case single active failure occurs coincident with the loss of offsite power.

A SW train loop is considered OPERABLE during MODES 1, 2, 3, and 4 when:

a. The pump is OPERABLE; and

Insert 1

C b. The associated piping, valves, heat exchanger, and instrumentation and controls required to perform the safety related function are OPERABLE.

Insert 3

RID

APPLICABILITY

In MODES 1, 2, 3, and 4, the SW System is a normally operating system that is required to support the OPERABILITY of the equipment serviced by the SW System and required to be OPERABLE in these MODES.

In MODES 5 and 6, the OPERABILITY requirements of the SWS are determined by the systems it supports.

ACTIONS

C A.1

Insert 2

for reasons other than Condition A

If one SWS train loop is inoperable for reasons other than Condition A action must be taken to restore the loop to OPERABLE status within 72 hours. In this Condition,

(continued)

INSERT 1

a. Two SW pumps are OPERABLE in an OPERABLE flow path;

b. Three spray arrays are OPERABLE in an OPERABLE flow path; and | R10

INSERT 2

A.1

If one SW pump is inoperable, the flow resistance of the system must be adjusted within 72 hours by throttling component cooling water heat exchanger flows to ensure that design flows to the RS System heat exchangers are achieved following an accident. The required resistance is obtained by throttling SW flow through the CC heat exchangers. In this configuration, a single failure disabling a SW pump would not result in loss of the SW System function.

B.1 and B.2

If one or more SW System loops are inoperable due to only two SW pumps being OPERABLE, the flow resistance of the system must be adjusted within one hour to ensure that design flows to the RS System heat exchangers are achieved if no additional failures occur following an accident. The required resistance is obtained by throttling SW flow through the CC heat exchangers. Two SW pumps aligned to one loop or one SW pump aligned to each loop is capable of performing the safety function if CC heat exchanger flow is properly throttled. However, overall reliability is reduced because a single failure disabling a SW pump could result in loss of the SW System function. The one hour time reflects the need to minimize the time that two pumps are inoperable and CC heat exchanger flow is not properly throttled, but is a reasonable time based on the low probability of a DBA occurring during this time period. Restoring one SW pump to OPERABLE status within 72 hours together with the throttling ensures that design flows to the RS System heat exchangers are achieved following an accident. The required resistance is obtained by throttling SW flow through the CC heat exchangers. In this configuration, a single failure disabling a SW pump would not result in loss of the SW System function.

INSERT 3

For two SW loops to be considered OPERABLE during MODES 1, 2, 3, and 4, the following conditions must also be met in order to provide protection for a single active failure of the actuation circuitry:

a. With one SW pump operating on each SW loop, the operating pumps have opposite train designations; and

b. With one of the four spray arrays on each SW loop inoperable, the inoperable spray arrays have opposite train designations.

A required valve directing flow to a spray array, bypass line, or other component is considered OPERABLE if it is capable of automatically moving to its safety position or if it is administratively placed in its safety position.

R10

5. The Bases of SR 3.7.13.1 were modified to add a discussion of the Surveillance Frequency.

BASES

ACTIONS

C.1 (continued)

entry into the condition. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of compensatory measures. The 24 hour Completion Time is a typically reasonable time to diagnose, plan, restore, and possibly repair, and test most problems with the MCR/ESGR bottled air system, such as repressurizing the system after an inadvertent actuation.

D.1 and D.2

In MODE 1, 2, 3, or 4, if the inoperable required MCR/ESGR bottled air system trains or the inoperable MCR/ESGR boundary cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

E.1 and E.2

During movement of recently irradiated fuel assemblies, if the required inoperable MCR/ESGR bottled air system train cannot be restored to OPERABLE status within the required Completion Time or two or more required MCR/ESGR bottled air system trains are inoperable, action must be taken to immediately suspend activities that could result in a release of radioactivity that might require isolation of the MCR/ESGR envelope. This places the unit in a condition that minimizes risk. This does not preclude the movement of fuel to a safe position.

SURVEILLANCE REQUIREMENTS

SR 3.7.13.1

This SR verifies that each required MCR/ESGR bottled air bank is at the proper pressure. This ensures that when combined with the required number of OPERABLE air bottles, the minimum required air flow will be maintained to ensure the required MCR/ESGR envelope pressurization for approximately 60 minutes when the MCR/ESGR bottled air system is actuated. The 31 day Frequency is based on engineering judgement. R10

INSERT

SR 3.7.13.1

This SR verifies that each required MCR/ESGR bottled air bank is at the proper pressure. This ensures that when combined with the required number of OPERABLE air bottles, the minimum required air flow will be maintained to ensure the required MCR/ESGR envelope pressurization for approximately 60 minutes when the MCR/ESGR bottled air system is actuated. The 31 day Frequency is based on engineering judgment. R10

SR 3.7.13.2

This SR verifies that the proper number of MCR/ESGR air bottles are in service, with one bank of 51 air bottles in each required train. This SR requires verification that each bottled air bank manual valve not locked, sealed, or otherwise secured and required to be open during accident conditions is open. This SR helps to ensure that the bottled air banks required to be OPERABLE to pressurize the MCR/ESGR boundary are in service. The 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. This SR does not apply to valves that are locked, sealed, or otherwise secured in the open position, since these were verified to be in the correct position prior to locking, sealing, or securing.

6. Required Action A.1 of ITS 3.7.10 and 3.7.13 is revised to use terminology consistent with the corresponding Condition.

3.7 PLANT SYSTEMS

3.7.10 Main Control Room/Emergency Switchgear Room (MCR/ESGR) Emergency Ventilation System (EVS)–MODES 1, 2, 3, and 4

LCO 3.7.10 The following MCR/ESGR EVS trains shall be OPERABLE:

a. Two MCR/ESGR Emergency Ventilation System (EVS) trains; and

b. One MCR/ESGR EVS train on the other unit.

---------- NOTE ----------
The MCR/ESGR boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required LCO 3.7.10.a or LCO 3.7.10.b MCR/ESGR EVS train inoperable.	A.1 Restore MCR/ESGR EVS train to OPERABLE status.	7 days
B. Two or more required LCO 3.7.10.a or LCO 3.7.10.b MCR/ESGR EVS trains inoperable due to inoperable MCR/ESGR boundary.	B.1 Restore MCR/ESGR boundary to OPERABLE status.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

R10

3.7 PLANT SYSTEMS

3.7.13 Main Control Room/Emergency Switchgear Room (MCR/ESGR) Bottled Air System

LCO 3.7.13 Three MCR/ESGR bottled air system trains shall be OPERABLE.

---------- NOTE ----------
The MCR/ESGR boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of recently irradiated fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required MCR/ESGR bottled air system train inoperable.	A.1 Restore MCR/ESGR bottled air system train to OPERABLE status.	7 days R10
B. Two or more required MCR/ESGR bottled air system trains inoperable due to inoperable MCR/ESGR boundary in MODE 1, 2, 3, or 4.	B.1 Restore MCR/ESGR boundary to OPERABLE status.	24 hours
C. Two or more required MCR/ESGR bottled air system trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.	C.1 Restore at least two MCR/ESGR bottled air system train to OPERABLE status.	24 hours

Main Control Room / Emergency Switchgear Room (MCR/ESGR)

MCR/ESGR EVS
-MODES 1, 2, 3, and 4
CREFS
3.7.10

(2)

CTS

3.7.7.1

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration System (CREFS) -MODES 1, 2, 3, and 4

Ventilation
EVS

(2)

LCO 3.7.10 Two CREFS trains shall be OPERABLE.

The following MCR/ESGR EVS

INSERT 2
INSERT 1

(5)
TSTF-287
(3)

APPLICABILITY: MODES 1, 2, 3, and 4
[5. and 6.]
During movement of irradiated fuel assemblies.
[During CORE ALTERATIONS].

<See ITS 3.7.14>

Action a
required LCO 3.7.10.a or LCO 3.7.10.b MCR/ESGR EVS

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CREFS train inoperable.	A.1 Restore CREFS train to OPERABLE status. (MCR/ESGR EVS)	7 days
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 Be in MODE 3. OR B.2 Be in MODE 5.	6 hours 36 hours
C. Required Action and associated Completion Time of Condition A not met [in MODE 5 or 6, or] during movement of irradiated fuel assemblies [, or during CORE ALTERATIONS].	C.1 -------NOTE------- Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable. ---------- Place OPERABLE CREFS train in emergency mode.	Immediately
B. Two CREFS trains inoperable due to inoperable control room boundary in MODES 1, 2, 3, and 4.	B.1 Restore control room boundary to OPERABLE status.	24 hours

Action a
Action b

(continued)

<See ITS 3.7.14>

(5)

Action b

WOG STS 3.7-23

Rev 1, 04/07/95

MCR/ESGR

TSTF-287

(4)

(2)

R10

Rev. 10

CTS

3.7.7.1

Main Control Room / Emergency Switchgear Room (MCR/ESGR) Bottled Air

MCR/ESGR Bottled Air System

CREFS 3.7.10 13 (2)

3.7 PLANT SYSTEMS

3.7.10 Control Room Emergency Filtration System (CREFS) (2)

13

LCO 3.7.10 Two CREFS trains shall be OPERABLE.

Three MCR/ESGR bottled air system (4)

INSERT 1 TSTF 287

APPLICABILITY: MODES 1, 2, 3, 4, [5, and 6,] and (3)
During movement of irradiated fuel assemblies,
[During CORE ALTERATIONS]. recently

TSTF-51

ACTIONS MCR/ESGR bottled air system (2)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
required A. One CREFS train inoperable.	A.1 Restore CREFS train to OPERABLE status.	7 days	(2) RID
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, 3, or 4.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours	(4) INSERT 2 (7) TSTF-287 (7) TSTF-287
C. Required Action and associated Completion Time of Condition A not met [in MODE 5 or 6, or] during movement of irradiated fuel assemblies [, or during CORE ALTERATIONS]. recently	C.1 ------NOTE------ Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable. ---------- Place OPERABLE CREFS train in emergency mode. OR	Immediately	TSTF-287 (1) (3) TSTF-51 (4)
		(continued)	

Actron a

Actron a
Actron b

NEW

or more required MCR/ESGR bottled air system (4)

NEW

B. Two CREFS trains inoperable due to inoperable control room boundary in MODE 1, 2, 3, and 4.	B.1 Restore control room boundary to OPERABLE status.	24 hours	(2) TSTF-287 (5)

Rev. 10

Changes Not Associated With RAI Responses
ITS Section 3.7, Plant Systems

7. ITS 3.7.8, DOC A.9 is eliminated and DOC L.3 is added. The original submittal deleted the CTS requirement that the service water pumps must have their associated normal and emergency power supplies with DOC A.9. This is revised to be a Less Restrictive change to document that the ITS Required Actions for a service water loop inoperable due to an inoperable normal or emergency power supply would allow a longer Completion Time than does the CTS.

ITS 3.7.8

A.1

07-17-97

PLANT SYSTEMS

ITS

3/4.7.4 SERVICE WATER SYSTEM

3/4.7.4.1 SERVICE WATER SYSTEM – OPERATING

LIMITING CONDITION FOR OPERATION

3.7.8

3.7.4.1 Two service water loops (shared with Unit 2) shall be OPERABLE with each loop consisting of: A.2 A.4

a. Two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies, and L.3 | R1D

b. An OPERABLE flow path capable of providing cooling for OPERABLE plant components and transferring heat to the service water reservoir. LA.1

APPLICABILITY: Either Unit in MODES 1, 2, 3 or 4. A.2

ACTION:

Action A.1

a. With one service water pump inoperable, within 72 hours throttle component cooling water heat exchanger flows in accordance with approved operating procedures to ensure the remaining service water pumps are capable of providing adequate flow to the recirculation spray heat exchangers. The provisions of Specification 3.0.4 are not applicable once component cooling heat exchangers flows are throttled. A.10 | RAI 3.7.8S R1D A.3

Action B.1
Action B.2
Action D.1
Action D.2

b. With two service water pumps inoperable, perform ACTION 3.7.4.1.a within 1 hour and restore at least one service water pump to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. A.1 A.2

Action C.1

Action D.1
Action D.2

c. With one service water loop inoperable, except as provided in ACTION 3.7.4.1.a, be restore the inoperable loop to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. A.2

throttle component cooling heat exchanger flow A.1

---

* For the purpose of service water system upgrades associated with the supply and return piping to/from the component cooling water heat exchangers (CCHXs) which includes encased in concrete and exposed piping from the 36" headers to the first isolation valve, one of the two service water (SW) loops is permitted to temporarily bypass the CCHXs, provided all other requirements in this specification are met. This condition is permitted two times only (once for each SW loop) for a duration of up to 35 days each. During each period of operation with only one SW loop available to/from the CCHXs, four out of four SW pumps (excluding the auxiliary SW pumps) shall remain OPERABLE. With one SW pump inoperable, work may continue provided actions are taken to either restore the pump to OPERABLE status within 72 hours or restore both SW headers to/from the CCHXs to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. During each period of operation with only one SW loop available to/from the CCHXs, the automatic closure feature of the SW valves servicing the CCHXs shall be defeated to ensure SW flow to the CCHXs is not interrupted. The automatic closure will not be defeated when the 168-hour Action Statement per Section 3.7.4.1.d is entered during these 35-day periods of operation. During each period of operation with only one SW loop available to/from the CCHXs, the provisions of Specification 3.0.4 are not applicable, provided two SW loops are capable of providing cooling for the other OPERABLE plant components. Upon completion of the work associated with the second 35-day period, this footnote will no longer be applicable. A.4

ITS 3.7.8

A.1

07-17-97

PLANT SYSTEMS

ITS

3/4.7.4 SERVICE WATER SYSTEM

3/4.7.4.1 SERVICE WATER SYSTEM – OPERATING

LIMITING CONDITION FOR OPERATION

3.7.8

3.7.4.1 Two service water loops (shared with Unit 1) shall be OPERABLE with each loop consisting of: A.2

a. Two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies,* and A.4 L.3 RID

b. An OPERABLE flow path capable of providing cooling for OPERABLE plant components and transferring heat to the service water reservoir.* LA.1

APPLICABILITY: Either Unit in MODES 1, 2, 3 or 4. A.2

ACTION:

Actron A.1

a. With one service water pump inoperable, within 72 hours throttle component cooling water heat exchanger flows, in accordance with approved operating procedures, to ensure the remaining service water pumps are capable of providing adequate flow to the recirculation spray heat exchangers. The provisions of Specification 3.0.4 are not applicable once component cooling heat exchangers flows are throttled. A.10 RAI 3785 R10 A.3

Actron B.1
Actron B.2
Actron D.1
Actron D.2

b. With two service water pumps inoperable, perform ACTION 3.7.4.1.a within 1 hour and restore at least one service water pump to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. A.1 A.2 6s

Actron C.1
Actron D.1
Actron D.2

c. With one service water loop inoperable, except as provided in ACTION 3.7.4.1.a, restore the inoperable loop to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

throttle component cooling heat exchanger flow A.1

---

* For the purpose of service water system upgrades associated with the supply and return piping to/from the component cooling water heat exchangers (CCHXs) which includes encased in concrete and exposed piping from the 36" headers to the first isolation valve, one of the two service water (SW) loops is permitted to temporarily bypass the CCHXs, provided all other requirements in this specification are met. This condition is permitted two times only (once for each SW loop) for a duration of up to 35 days each. During each period of operation with only one SW loop available to/from the CCHXs, four out of four SW pumps (excluding the auxiliary SW pumps) shall remain OPERABLE. With one SW pump inoperable, work may continue provided actions are taken to either restore the pump to OPERABLE status within 72 hours or restore both SW headers to/from the CCHXs to OPERABLE status within 72 hours, or place both units in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. During each period of operation with only one SW loop available to/from the CCHXs, the automatic closure feature of the SW valves servicing the CCHXs shall be defeated to ensure SW flow to the CCHXs is not interrupted. The automatic closure will not be defeated when the 168-hour Action Statement per Section 3.7.4.1.d is entered during these 35-day periods of operation. During each period of operation with only one SW loop available to/from the CCHXs, the provisions of Specification 3.0.4 are not applicable, provided two SW loops are capable of providing cooling for the other OPERABLE plant components. Upon completion of the work associated with the second 35-day period, this footnote will no longer be applicable. A.4

actuation signals. ITS SR 3.7.8.2 retains this requirement. This change is designated as administrative because it does not result in technical changes to the CTS.

RAI 3.7.8-3 R10

A.8 Not used.

A.9 Not used.

R10

A.10 CTS 3.7.4.1 Action a states that when one service water pump is inoperable, the SW flow to the CC heat exchangers must be throttled in accordance with approved operating procedures to ensure the remaining service water pumps are capable of providing adequate flow to the RS heat exchangers. ITS 3.7.8 Actions A.1 and B.1 require throttling of the SW flow to the CC heat exchangers to obtain the required RS heat exchanger flow. This changes the CTS by deleting the requirement that the throttling be performed using approved operating procedures.

RAI 3.7.8-5 R10

The purpose of CTS 3.7.4.1 Action a is to provide assurance that component cooling heat exchanger flow is throttled within 72 hours of a SW pump inoperability so that the SW System is available when needed. This change is acceptable because the requirement to perform the action in accordance with approved procedures is redundant to other Specifications. ITS Section 5.4.1 requires that written procedures be established, implemented, and maintained covering activities which include the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33 Appendix A states that among the typical safety-related activities that should be covered by written procedures, list number 3, Procedures for Startup, Operation, and Shutdown of Safety-Related PWR Systems, instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate, for systems which include item "m", "Service Water System". CTS 3/4.7.4.1 Action a, throttling component cooling water heat exchanger flow, would be considered changing the mode of operation of the system. Therefore, deleting this statement from CTS 3.7.4.1 has no

position. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

RAI 3.7.8 R10

L.2 Not used

L.3 *(Category 3 – Relaxation of Completion Time)* CTS 3.7.4.1.a requires that each required service water loop include two OPERABLE service water pumps with their associated normal and emergency power supplies. The CTS Section 1.0 definition of "OPERABLE - OPERABILITY" requires that all necessary normal and emergency electrical power sources be available for the system, subsystem, train, component, or device to be OPERABLE. The ITS Section 1.1 definition of "OPERABLE - OPERABILITY" will replace the phrase "normal and emergency electrical power sources" with "normal or emergency electrical power sources". This changes the CTS by allowing a device to be considered OPERABLE with either normal or emergency power available. ITS 3.7.8 does not contain power source requirements for the service water pumps. This changes CTS by addressing service water pump power source requirements through the definition of OPERABLE-OPERABILITY and through ITS 3.8.1. Conditions are entered and Required Actions are taken of ITS 3.8.1 for power supply inoperabilities, and subsequently entering ITS 3.7.8 Conditions for power supply inoperabilites as appropriate based on ITS 3.8.1 Required Actions. R10

The purpose of ITS 3.7.8 is to provide appropriate Conditions and Required Actions for the SW System. This change is acceptable because the Completion Times are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. ITS 3.8.1, AC Sources, contains ACTIONS (verification of redundant features) to ensure that a loss of function does not exist and that appropriate compensatory measures will be taken to respond to a degradation of the electrical power sources. Similar evaluations are required by ITS LCO 3.0.6 and ITS Chapter 5.0, Safety Function Determination Program. The ITS 3.8.1 ACTIONS also limit the time that the AC Sources are allowed to remain inoperable. Shared components are declared inoperable and their respective Conditions are entered as specified in 3.8.1. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

Changes Not Associated With RAI Responses
ITS Section 3.7, Plant Systems

8. ITS 3.7.17 is revised to require the spent fuel storage pool boron concentration to be ≥2600 ppm instead of ≥2500 ppm. CTS 3.9.1 requires the boron concentration of the RCS and refueling canal to be ≥ 2600 ppm. The ITS relocates this value to the COLR. However, the value in the COLR is expected to be at least 2600 ppm. As the spent fuel storage pool and the refueling canal are connected during refueling, the spent fuel storage pool boron concentration will be maintained ≥2600 ppm to prevent dilution of the refueling canal and RCS. From a station operations perspective, it is more convenient for the requirements to be the same. Raising the minimum spent fuel storage pool boron concentration has no adverse effects on the accident analyses.

3.7 PLANT SYSTEMS

3.7.17 Fuel Storage Pool Boron Concentration

LCO 3.7.17 The fuel storage pool boron concentration shall be ≥ 2600 ppm. R10

APPLICABILITY: When fuel assemblies are stored in the fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel storage pool boron concentration not within limit.	----------NOTE---------- LCO 3.0.3 is not applicable. ----------	
	A.1 Suspend movement of fuel assemblies in the fuel storage pool.	Immediately
	AND	
	A.2 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.17.1	Verify the fuel storage pool boron concentration is within limit.	7 days

BASES

APPLICABLE SAFETY ANALYSES (continued)

The postulated accidents considered when determining the required fuel storage pool boron concentration are the misloading of a fuel assembly, an increase in fuel storage pool temperature, and boron dilution. Analyses have shown that the amount of boron required by the LCO is sufficient to ensure that the most limiting misloading of a fuel assembly results in a $k_{eff} < 0.95$. The boron concentration limit also accommodates decreases in water density due to temperature increases in the fuel storage pool. Analyses have also shown that there is sufficient time to detect and mitigate a boron dilution event prior to exceeding the design basis of $k_{eff} < 0.95$. The fuel storage pool analyses do not credit the Boraflex neutron absorbing material in the fuel storage pool racks.

The concentration of dissolved boron in the fuel storage pool satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

LCO

The fuel storage pool boron concentration is required to be $\geq$ 2600 ppm. The specified concentration of dissolved boron in the fuel storage pool preserves the assumptions used in the analyses which take credit for soluble boron and for fuel loading restrictions based on fuel enrichment and burnup. The fuel loading restrictions are described in LCO 3.7.18. The fuel storage pool boron concentration limit, when combined with fuel burnup and geometry limits in LCO 3.7.18, ensures that the fuel storage pool k_{eff} meets the limits in Section 4.3, "Design Features." R10

APPLICABILITY

This LCO applies whenever fuel assemblies are stored in the spent fuel storage pool. The required boron concentration ensures that the k_{eff} limits in Section 4.3 are met when fuel is stored in the fuel storage pool.

ACTIONS

A.1 and A.2

The Required Actions are modified by a Note indicating that LCO 3.0.3 does not apply.

When the concentration of boron in the fuel storage pool is less than required, immediate action must be taken to preclude the occurrence of an accident or to mitigate the consequences of an accident in progress. This is most efficiently achieved by immediately suspending the movement

(continued)

CTS

3.7 PLANT SYSTEMS

3.7.16 Fuel Storage Pool Boron Concentration

3.7.14

LCO 3.7.16 The fuel storage pool boron concentration shall be ≥ [2300] 2600 ppm.

Appl.

APPLICABILITY: When fuel assemblies are stored in the fuel storage pool and a fuel storage pool verification has not been performed since the last movement of fuel assemblies in the fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel storage pool boron concentration not within limit.	----------NOTE---------- LCO 3.0.3 is not applicable. ----------	
	A.1 Suspend movement of fuel assemblies in the fuel storage pool.	Immediately
	AND	
	A.2 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately
	OR	
	A.2.2 Verify by administrative means [Region 2] fuel storage pool verification has been performed since the last movement of fuel assemblies in the fuel storage pool.	Immediately

Initiate action to perform a fuel storage pool verification.

Action b

Action a

Action a

Action b

Rev. 1.0

BASES (continued)

APPLICABLE SAFETY ANALYSES

Most accident conditions do not result in an increase in the activity of either of the two regions. Examples of these accident conditions are the loss of cooling (reactivity increase with decreasing water density) and the dropping of a fuel assembly on the top of the rack. However, accidents can be postulated that could increase the reactivity. This increase in reactivity is unacceptable with unborated water in the storage pool. Thus, for these accident occurrences, the presence of soluble boron in the storage pool prevents criticality in both regions. The postulated accidents are basically of two types. A fuel assembly could be incorrectly transferred from [Region 1 to Region 2] (e.g., an unirradiated fuel assembly or an insufficiently depleted fuel assembly). The second type of postulated accidents is associated with a fuel assembly which is dropped adjacent to the fully loaded [Region 2] storage rack. This could have a small positive reactivity effect on [Region 2]. However, the negative reactivity effect of the soluble boron compensates for the increased reactivity caused by either one of the two postulated accident scenarios. The accident analyses is provided in the FSAR, Section [15.7.4] (Ref. 4).

Insert 1

The concentration of dissolved boron in the fuel storage pool satisfies Criterion 2 of ~~the NRC Policy Statement~~ 10 CFR 50.36(c)(2)(ii).

LCO

The fuel storage pool boron concentration is required to be ≥ [2300] ppm. The specified concentration of dissolved boron in the fuel storage pool preserves the assumptions used in the analyses of the potential critical accident scenarios as described in Reference 4. This concentration of dissolved boron is the minimum required concentration for fuel assembly storage and movement within the fuel storage pool.

2600

Insert 2

APPLICABILITY

This LCO applies whenever fuel assemblies are stored in the spent fuel storage pool, until a complete spent fuel storage pool verification has been performed following the last movement of fuel assemblies in the spent fuel storage pool. This LCO does not apply following the verification, since the verification would confirm that there are no misloaded fuel assemblies. With no further fuel assembly movements in

Insert 3

(continued)

A.1

ITS 3.7.17

3/4.7 PLANT SYSTEMS

3/4.7.14 SPENT FUEL POOL BOARON CONCENTRATION

ITS 3.7.17 Appl

LIMITING CONDITION FOR OPERATION

3.7.14 The spent fuel pool boron concentration shall be ≥ ~~2500~~ 2600 ppm. M.1 1RIO

APPLICABILITY: When fuel assemblies are stored in the spent fuel pool.

ACTION:

a. Immediately suspend movement of fuel assemblies in the spent fuel pool and initiate action to restore the spent fuel pool boron concentration to within limits.

b. The provisions of Specification 3.0.3 are not applicable.

Condition A1

Required Action Note

SURVEILLANCE REQUIREMENTS

4.7.14 The spent fuel pool boron concentration shall be determined to be ≥ ~~2500~~ 2600 ppm at least once every 7 days. M.1 1RIO R2

SR 3.7.17.1

A.1

ITS 3.7.17

3/4.7 PLANT SYSTEMS

3/4.7.14 SPENT FUEL POOL BORON CONCENTRATION

ITS

LIMITING CONDITION FOR OPERATION

3.7.17

3.7.14 The spent fuel pool boron concentration shall be ≥ ~~2500~~ 2600 ppm. M.1 IRTO

Appl.

APPLICABILITY: When fuel assemblies are stored in the spent fuel pool

ACTION:

Condition A

a. Immediately suspend movement of fuel assemblies in the spent fuel pool and initiate action to restore the spent fuel pool boron concentration to within limits.

Required Action Note

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.7.17.1

4.7.14 The spent fuel pool boron concentration shall be determined to be ≥ ~~2500~~ 2600 ppm at least once every 7 days. M.1 IRTO RZ

ADMINISTRATIVE CHANGES

A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS). R2

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.7.14 requires a spent fuel storage pool boron concentration of at least 2500 ppm. ITS 3.7.17 requires a spent fuel storage pool boron concentration of at least 2600 ppm. This changes the CTS by increasing the minimum spent fuel storage pool boron concentration.

The purpose of the CTS is to ensure adequate dissolved boron in the spent fuel storage pool water to maintain the required subcriticality margin. This change is acceptable because the higher limit continues to protect the accident analysis assumptions and provides additional margin to the analysis limits. CTS 3.9.1 requires the boron concentration of the RCS and refueling canal to be ≥ 2600 ppm. The ITS relocates this value to the COLR. However, the value in the COLR is expected to be at least 2600 ppm. As the spent fuel storage pool and the refueling canal are connected during refueling, the spent fuel storage pool boron concentration will be maintained ≥2600 ppm to prevent dilution of the refueling canal and RCS. From a station operation perspective, it is more convenient for the values to be the same. Raising the minimum spent fuel storage pool boron concentration has no adverse effects on the accident analyses. This change is designated as more restrictive because it imposes a high limit on spent fuel pool boron concentration. R10

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES R2

None

LESS RESTRICTIVE CHANGES

None

Attachment

Proposed Improved Technical Specifications
Additional Response to Request for Additional Information 3.2.1-1

Virginia Electric and Power Company
(Dominion)

North Anna Power Station Units 1 and 2

North Anna Improved Technical Specifications (ITS) Review Comments
ITS Section 3.2, Power Distribution Limits

RAI 3.2.1-1
ITS 3.2.1 Heat Flux Hot Channel Factor ($F_Q(Z)$)
STS 3.2.1 Heat Flux Hot Channel Factor ($F_Q(Z)$)
Insert A.1 to Condition A Required Actions

NRC RAI: The ITS provides a plant specific revision to STS 3.2.1 Heat Flux Hot Channel Factor ($F_Q(Z)$). STS Conditions A and B are combined due to the plant specific methodology for calculating $F_Q(Z)$. **Comment**: In combining STS Conditions A and B, the ITS utilizes an "OR" logical connector between Required Actions A.1 and A.2.1. The logical connector should be an "AND."

Response: The Company does not agree with the action recommended in the Comment. The North Anna $F_Q(Z)$ methodology balances the AFD operating band against $F_Q(Z)$ operating margin. As stated in CTS 4.2.2.2.f.2 (CTS markup page 3 of 3), if $F_Q(Z)$ exceeds its limit, power operation may continue if the AFD limits are reduced OR the 3.2.2 Actions are followed. Reducing the AFD operating band provides additional $F_Q(Z)$ operating margin. Therefore, the ITS is correct as written and is consistent with the CTS. The missing "OR" will be added to the ISTS markup.

Additional Response: The North Anna Relaxed Power Distribution Control (RPDC) methodology, which is used to determine the $F_Q(Z)$ limit, utilizes a factor, N(z), which reduces the $F_Q(Z)$ limit to account for changes in core power distribution between the core conditions when $F_Q(Z)$ is measured and the most limiting core power distribution assumed in the accident analysis. This "most limiting" power distribution coincides with the limits of the AFD operating band. If the measured $F_Q(Z)$ is above the $F_Q(Z)$ limit, it does not mean that the results of an accident from the current conditions would be unacceptable; it means that the results of an accident from the most limiting power distribution would be unacceptable. Therefore, narrowing the AFD operating band restricts the most limiting power distribution and ensures that the results of an accident from those conditions would be acceptable. Because of this relationship between $F_Q(Z)$ and AFD, reducing the AFD operating band is an acceptable mitigating action for a violation of the $F_Q(Z)$ limit. In addition, reducing reactor power is also an acceptable mitigating action for a violation of the $F_Q(Z)$ limit because a lower operating power level results in lower post-accident decay heat generation and less severe accident results. Therefore, either action is an acceptable response to a violation of the $F_Q(Z)$ limit.