NORTH ANNA POWER STATION

Section 3.4
Reactor Coolant System (RCS)
Book 2

VOLUME 12
Improved Technical Specifications

Dominion

SECTION 3.4 - REACTOR COOLANT SYSTEM (RCS)

CURRENT TECHNICAL SPECIFICATIONS

MARKUP AND DISCUSSION OF CHANGES

UNIT 1

A.1

11-26-77

ITS

POWER DISTRIBUTION LIMITS

DNB PARAMETERS

LIMITING CONDITION FOR OPERATION

LCO 3.4.1

3.2.5 The following DNB related parameters shall be maintained within the limits shown on Table 3.2-1:

a. Reactor Coolant System T_{avg}

b. Pressurizer Pressure

c. Reactor Coolant System Total Flow Rate

Appl

APPLICABILITY: MODE 1

ACTION:

Action A
Action B

With any of the above parameters exceeding its limit, restore the parameter to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

SR 3.4.1.1
SR 3.4.1.2
SR 3.4.1.3
SR 3.4.1.4

4.2.5.1 Each of the parameters of Table 3.2-1 shall be verified to be within their limits at least once per 12 hours.

4.2.5.2 The Reactor Coolant System total flow rate shall be determined to be within its limit by measurement at least once per 18 months.

TABLE 3.2-1

DNB PARAMETERS

PARAMETER	LIMITS: 3 Loops in Operation	LIMITS: 2 Loops in Operation ** & Loop Stop Valves Open	LIMITS: 2 Loops in Operation ** & Isolated Loop Stop Valves Closed
Reactor Coolant System T_{avg}	≤ 591°F		
Pressurizer Pressure	≥ 2205 psig *		
Reactor Coolant System Total Flow Rate	≥ 295,000 gpm		

LCO 3.4.1
LCO 3.4.1
LCO 3.4.1

≤ the limit specified in the COLR

and

≥ the limit specified in the COLR

LA.1

A.1

A.2

* Limit not applicable during either a THERMAL POWER ramp increase in excess of 5% RATED THERMAL POWER per minute or a THERMAL POWER step increase in excess of 10% RATED THERMAL POWER.

** Values dependent on NRC approval of ECCS evaluation for these conditions.

Applicability Note

UNIT 2

A.1

08-21-80

POWER DISTRIBUTION LIMITS

ITS

DNB PARAMETERS

LIMITING CONDITION FOR OPERATION

LCO 3.4.1

3.2.5 The following DNB related parameters shall be maintained within the limits shown on Table 3.2-1:

a. Reactor Coolant System T_{avg}

b. Pressurizer Pressure

c. Reactor Coolant System Total Flow Rate

Appl

APPLICABILITY: MODE 1

ACTION:

Action A

With any of the above parameters exceeding its limit, restore the parameter to within its limit within 2 hours or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 4 hours.

Action B

SURVEILLANCE REQUIREMENTS

SR 3.4.1.1
SR 3.4.1.2
SR 3.4.1.3

4.2.5.1 Each of the parameters of Table 3.2-1 shall be verified to be within their limits at least once per 12 hours.

SR 3.4.1.4

4.2.5.2 The Reactor Coolant System total flow rate shall be determined to be within its limit by measurement at least once per 18 months.

LCO 3.4.1
LCO 3.4.1
LCO 3.4.1

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Applicability Note

TABLE 3.2-1
DNB PARAMETERS

PARAMETER	LIMITS: 3 Loops in Operation	LIMITS: ~~2 Loops in Operation ** & Loop Stop Valves Open~~	LIMITS: ~~2 Loops in Operation ** & Isolated Loop Stop Valves Closed~~
Reactor Coolant System T_{avg}	~~≤591°F~~	≤ the limit specified in the COLR	
Pressurizer Pressure	~~≥2205 psig~~ *		
Reactor Coolant System Total Flow Rate	≥ 295,000 gpm and	≥ the limit specified in the COLR	

LA.1

A.1

* Limit not applicable during either a THERMAL POWER ramp increase in excess of 5% RATED THERMAL POWER per minute or a THERMAL POWER step increase in excess of 10% RATED THERMAL POWER.

~~** Values dependent on NRC approval of ECCS evaluation for these conditions.~~

A.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 CTS 3.2.5, Table 3.2-1, contains placeholders for DNB limits during 2 loop operation with loop stop valves open and during 2 loop operation with isolated loop stop valves closed. A footnote, designated **, states that values will be dependent on NRC approval of ECCS evaluation for these conditions. The ITS does not contain a similar place holder. This changes the CTS by eliminating references and place holders for DNB limits applying to two-loop operation.

This change is acceptable because the requirements have not changed. Both the ITS and the CTS require all three loops in operation in the applicable MODES (MODE 1). This change is designated as administrative because it eliminates an option in the CTS which cannot be used.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 5 – Removal of Cycle-Specific Parameter Limits from the Technical Specifications to the Core Operating Limits Report)* CTS 3.2.5 places limits on RCS T_{avg}, pressurizer pressure, and RCS total flow rate. ITS 3.4.1 states that the limits on RCS T_{avg}, pressurizer pressure, and RCS total flow rate shall not exceed the limits specified in the COLR or the minimum RCS flow rate specified in the LCO. This changes the CTS by relocating the cycle specific values of RCS T_{avg}, pressurizer pressure, and RCS total flow rate to the COLR.

The removal of these cycle-specific parameter limits from the Technical Specifications and their relocation into the COLR is acceptable because these limits are developed or utilized under NRC-approved methodologies. The NRC documented in Generic Letter 88-16, Removal of Cycle-Specific Parameter Limits From the Technical Specifications, that 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 requirements and Surveillances that verify that the cycle-specific parameter limits are being met. NRC-approved Topical Report WCAP-14483, "Generic Methodology for Expanded Core Operating Limits Report" determined that the specific values for the DNB parameters may be relocated to the COLR as long as the limiting RCS total flow limit is retained in the LCO. The LCO continues to require that the core be operated within the DNB limits. The methodologies used to develop the DNB parameters in the COLR have obtained prior approval by the NRC in accordance with Generic Letter 88-16. Also, this change is acceptable because the removed information will be adequately controlled in the COLR under the requirements provided in ITS 5.6.5, Core Operating Limits Report. ITS 5.6.5 ensures that the applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems limits, and nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met. This change is designated as a less restrictive removal of detail change because information relating to cycle-specific parameter limits is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

None

UNIT 1

ITS

A.1

REACTIVITY CONTROL SYSTEMS

MINIMUM TEMPERATURE FOR CRITICALITY

LIMITING CONDITION FOR OPERATION

LCO 3.4.2

3.1.1.5 The Reactor Coolant System lowest operating loop temperature, T_{avg}, shall be $\geq$ 541°F.

Appl.

APPLICABILITY: MODES 1 and 2#.

ACTION:

Action A

With a Reactor Coolant System operating loop temperature, T_{avg}, < 541°F, ~~restore T_{avg} to within its limit within 15 minutes or~~ be in ~~HOT STANDBY~~ within ~~the next~~ ~~15~~ 30 minutes.

A.2

MODE 2 with K_{eff} < 1.0

A.3

SURVEILLANCE REQUIREMENTS

4.1.1.5 The Reactor Coolant System temperature, T_{avg}, shall be determined to be $\geq$ 541°F:

a. ~~Within 15 minutes prior to achieving reactor criticality, and~~

b. ~~At least once per 30 minutes when the reactor is critical and the Reactor Coolant System T_{avg} is less than 547°F, with the $T_{avg} - T_{ref}$ Deviation Alarm not reset.~~

L.1

SR 3.4.2.1

Once per 12 hours

#With $K_{eff} \geq 1.0$.

UNIT 2

A.1

ITS

REACTIVITY CONTROL SYSTEMS

MINIMUM TEMPERATURE FOR CRITICALITY

LIMITING CONDITION FOR OPERATION

LCO 3.4.2

3.1.1.5 The Reactor Coolant System lowest operating loop temperature, T_{avg}, shall be greater than or equal to 541°F.

Appl.

APPLICABILITY: MODES 1 and 2[#*]. A.4

ACTION:

Action A

With a Reactor Coolant System operating loop temperature, T_{avg}, less than 541°F, ~~restore T_{avg} to within its limit within 15 minutes or~~ be in ~~HOT STANDBY~~ within ~~the next~~ ~~15~~ 30 minutes. A.2

MODE 2 with K_{eff} < 1.0 A.3

SURVEILLANCE REQUIREMENTS

4.1.1.5 The Reactor Coolant System temperature, T_{avg}, shall be determined to be greater than or equal to 541°F:

~~a. Within 15 minutes prior to achieving reactor criticality, and~~

SR 3.4.21

~~b. At least once per 30 minutes when the reactor is critical and the Reactor Coolant System T_{avg} is less than 541°F, with the $T_{avg} - T_{ref}$ Deviation Alarm not reset.~~

L.1

once per 12 hours

[#]With K_{eff} greater than or equal to 1.0.

[*]~~See Special Test Exception 3.10.3.~~ A.4

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 3.1.1.5 Action states, "With a Reactor Coolant System operating loop temperature, T_{avg}, less than 541 °F, restore T_{avg} to within its limit within 15 minutes or be in HOT STANDBY within the next 15 minutes." ITS 3.4.2, Action A, states that with T_{avg} in one or more RCS loops not within limit, be in MODE 2 with Keff < 1.0 within 30 minutes. This changes the CTS by eliminating the requirement to restore T_{avg} to within its limit within 15 minutes. The change associated with entering MODE 2 with Keff < 1.0 instead of HOT STANDBY is discussed in DOC A.3.

This change is acceptable because it results in no technical change to the Technical Specifications. Restoration of compliance with LCO is always an option in an Action, so eliminating the restoration Action from the CTS has no effect. In both the CTS and the ITS, if T_{avg} is not restored with 30 minutes, the unit must be placed in a MODE in which the LCO does not apply. This change is designated as administrative as it results in no technical change to the Technical Specifications.

A.3 CTS 3.1.1.5 Action states, "With a Reactor Coolant System operating loop temperature, T_{avg}, less than 541 °F, restore T_{avg} to within its limit within 15 minutes or be in HOT STANDBY within the next 15 minutes." ITS 3.4.2, Action A, states that with T_{avg} in one or more RCS loops not within limit, be in MODE 2 with Keff < 1.0 within 30 minutes. This changes the CTS requirement to enter HOT STANDBY to enter MODE 2 with Keff < 1.0. Other changes to this Action are discussed in DOC A.2.

This change is acceptable because it results in no technical change to the Technical Specifications. CTS 3.1.1.5 is applicable in MODE 1 and MODE 2 with Keff ≥ 1.0. CTS 3.0.1 states that Actions are applicable during the MODES or other conditions specified for the Specification. Therefore, the CTS 3.1.1.5 Action to enter MODE 3 ceases to be applicable once the unit enters MODE 2 with Keff < 1.0, and the Action is exited. As a result, changing the ACTION to "be in MODE 2 with Keff < 1.0" results in no operational difference from the CTS Action. This change is designated as administrative as it results in no technical change to the Technical Specifications.

A.4 Unit 2 CTS 3.1.1.5 Applicability is modified by a footnote, designated with an asterisk, which states, "See Special Test Exception 3.10.3." ITS 3.4.2 does not contain this reference.

This change is acceptable because this footnote is provided for information only, and does not contain any requirements. It is an ITS convention to not include such references and it has been removed. This change is designated as administrative as it is an editorial change required to comply with the ITS format and content rules.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS Surveillance 4.1.1.5 states that the RCS T_{avg} shall be determined to be ≥ 541 °F within 15 minutes prior to achieving reactor criticality and every 30 minutes when the RCS T_{avg} < 547°F and the T_{avg} - T_{ref} Deviation Alarm is not reset. ITS Specification 3.4.2 requires RCS T_{avg} in each loop to be verified to be ≥ 541 °F every 12 hours. Under ITS SR 3.0.4, a Surveillance must be performed within the specified Frequency prior to entering the MODE or other specified condition in the Applicability. This changes the CTS Surveillance Frequency by requiring that the RCS T_{avg} for each loop be verified every 12 hours.

This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of assurance. The 12 hours Frequency is considered frequent enough to prevent inadvertent violation of the LCO. In the approach to criticality, the reactor coolant pumps are adding heat to the RCS, so the conditions before and after criticality are similar. The approach to criticality is a carefully controlled evolution during which RCS temperature is closely monitored. Therefore, 12 hours is frequent enough for the Technical Specifications to require recording of T_{avg} prior to criticality given that it is being carefully watched. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

UNIT 1

ITS

A.1

REACTOR COOLANT SYSTEM

3/4.4.9 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.4.3

3.4.9.1 The Reactor Coolant System (except the pressurizer) temperature and pressure shall be limited in accordance with the limit lines shown in Figures 3.4-2 and 3.4-3 during heatup, cooldown, and inservice leak and hydrostatic testing with: LA.1 A.2

a. A maximum heatup of 60°F in any one hour period.

b. A maximum cooldown of 100°F in any one hour period.

c. A maximum temperature change of less than or equal to 10°F in any one hour period during inservice hydrostatic and leak testing operations above the heatup and cooldown limit curves. A.4

Appl. APPLICABILITY: At all times. in MODES 1, 2, 3, or 4 Insert proposed Condition A Note A.3

Action A ACTION:

With any of the above limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operations or be in at least HOT STANDBY within the next 6 hours and reduce the RCS Tavg and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours. LA.2

Action B Within 72 hours Insert proposed Condition C Note A.3

Action C Insert proposed Condition C M.1

SURVEILLANCE REQUIREMENTS M.2

SR 3.4.3.1

4.4.9.1.1 The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown and inservice leak and hydrostatic testing operations.

4.4.9.1.2 The reactor vessel material irradiation surveillance specimens shall be removed and examined, to determine changes in material properties, at the intervals required by 10 CFR 50, Appendix H. The results of these examinations shall be used to update Figures 3.4-2 and 3.4-3. A.5

ITS

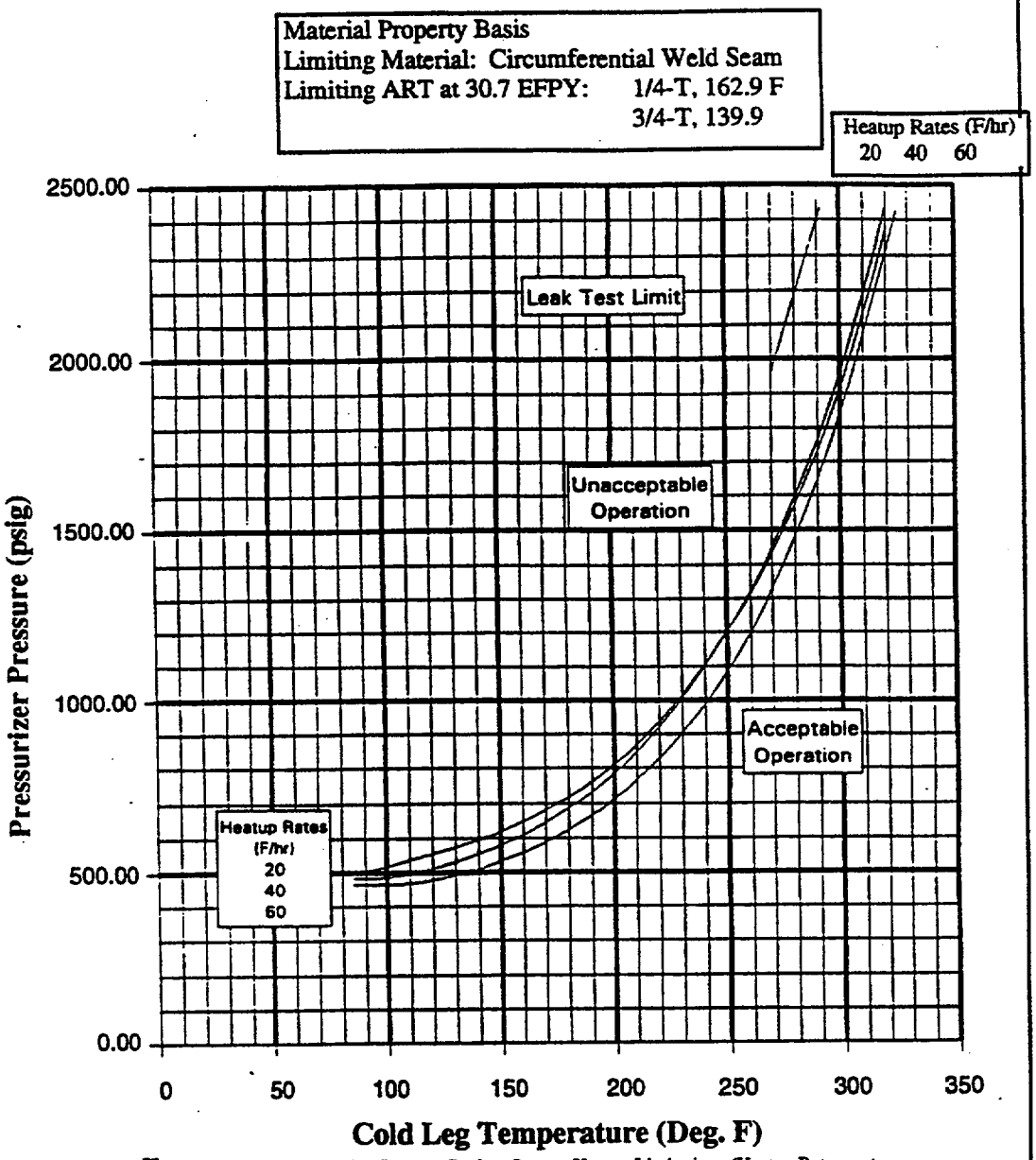
ITS 3.4.3

(A.1)

10-05-94

Figure 3.4.3-1

Figure 3.4-2 — **North Anna Unit 1**
Reactor Coolant System Heatup Limitations



North Anna Unit 1 Reactor Coolant System Heatup Limitations (Heatup Rates up to 60 F/hr) Applicable for the First 30.7 EFPY (Without Margins for Instrumentation Errors)

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ITS

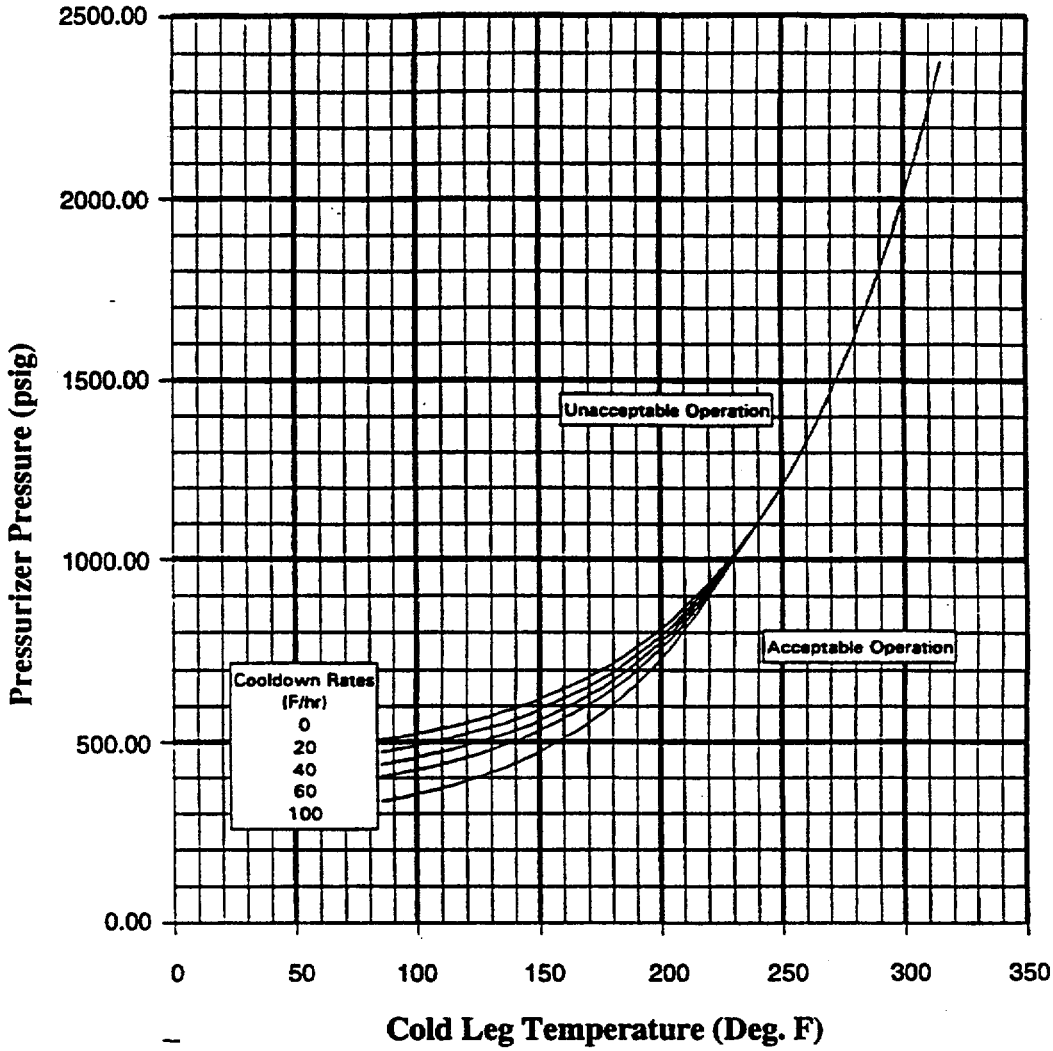
10-05-94

(A.1)

Figure 3.4-3 — **North Anna Unit 1**
Reactor Coolant System Cooldown Limitations

Figure 3.4.3-2

Material Property Basis
Limiting Material: Circumferential Weld Seam
Limiting ART at 30.7 EFPY: 1/4-T, 162.9 F
3/4-T, 139.9 F



North Anna Unit 1 Reactor Coolant System Cooldown Limitations (Cooldown Rates up to 100 F/hr) Applicable for the First 30.7 EFPY (Without Margins for Instrumentation Errors)

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Rev. 0

UNIT 2

ITS

A.1

REACTOR COOLANT SYSTEM

3/4.4.9 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.4.3

3.4.9.1 The Reactor Coolant System (except the pressurizer) temperature and pressure shall be limited in accordance with the limit lines shown in Figures 3.4-2 and 3.4-3 during heatup, cooldown, and inservice leak and hydrostatic testing with: LA.1 A.2

a. A maximum heatup of 60°F in any one hour period.

b. A maximum cooldown of 100°F in any one hour period.

c. A maximum temperature change of less than or equal to 10°F in any one hour period during inservice hydrostatic and leak testing operations above the heatup and cooldown limit curves. A.4

Appl. APPLICABILITY: At all times. in MODES 1, 2, 3, or 4

Insert proposed Condition A Note A.3

ACTION:

Action A With any of the above limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operations or be in at least HOT STANDBY within the next 6 hours and reduce the RCS Tavg and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours. LA.2

Action B within 72 hours

Insert proposed Condition C Note A.3

Action C Insert proposed Condition C M.1

SURVEILLANCE REQUIREMENTS M.2

SR 3.4.3.1 4.4.9.1.1 The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown and inservice leak and hydrostatic testing operations.

4.4.9.1.2 The reactor vessel material irradiation surveillance specimens shall be removed and examined, to determine changes in material properties, at the intervals required by 10 CFR 50, Appendix H. The results of these examinations shall be used to update Figures 3.4-2 and 3.4-3. A.5

ITS

ITS 3.4.3

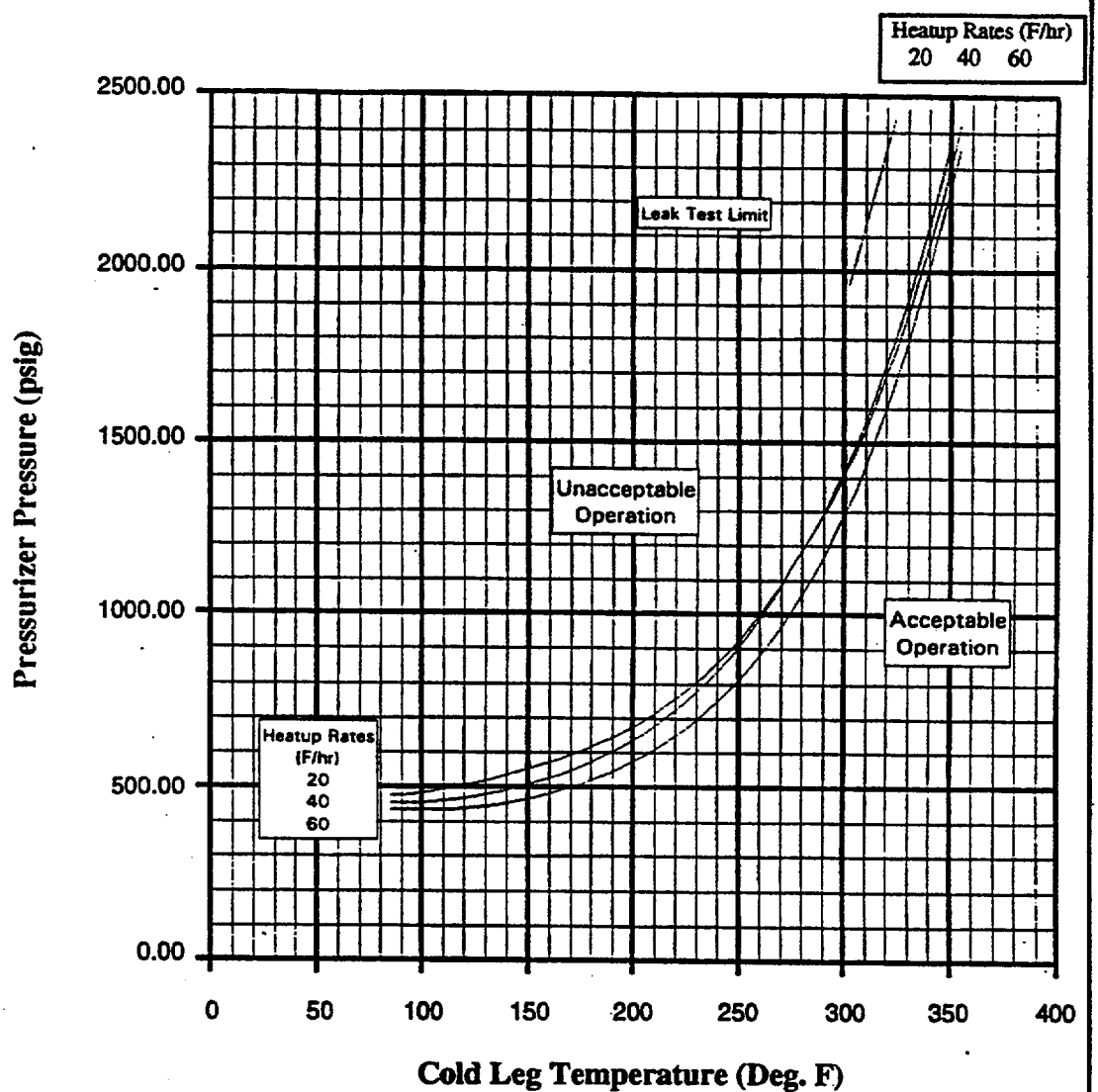
(A.1)

10-05-94

Figure 3.4.3-3

Figure 3.4-2 — **North Anna Unit 2**
Reactor Coolant System Heatup Limitations

Material Property Basis
Limiting Material: Lower Shell Plate
Limiting ART at 17 EFPY: 1/4-T, 196 F
3/4-T, 172 F



North Anna Unit 2 Reactor Coolant System Heatup Limitations (Heatup Rates up to 60 F/hr) Applicable for the First 17 EFPY (Without Margins for Instrumentation Errors)

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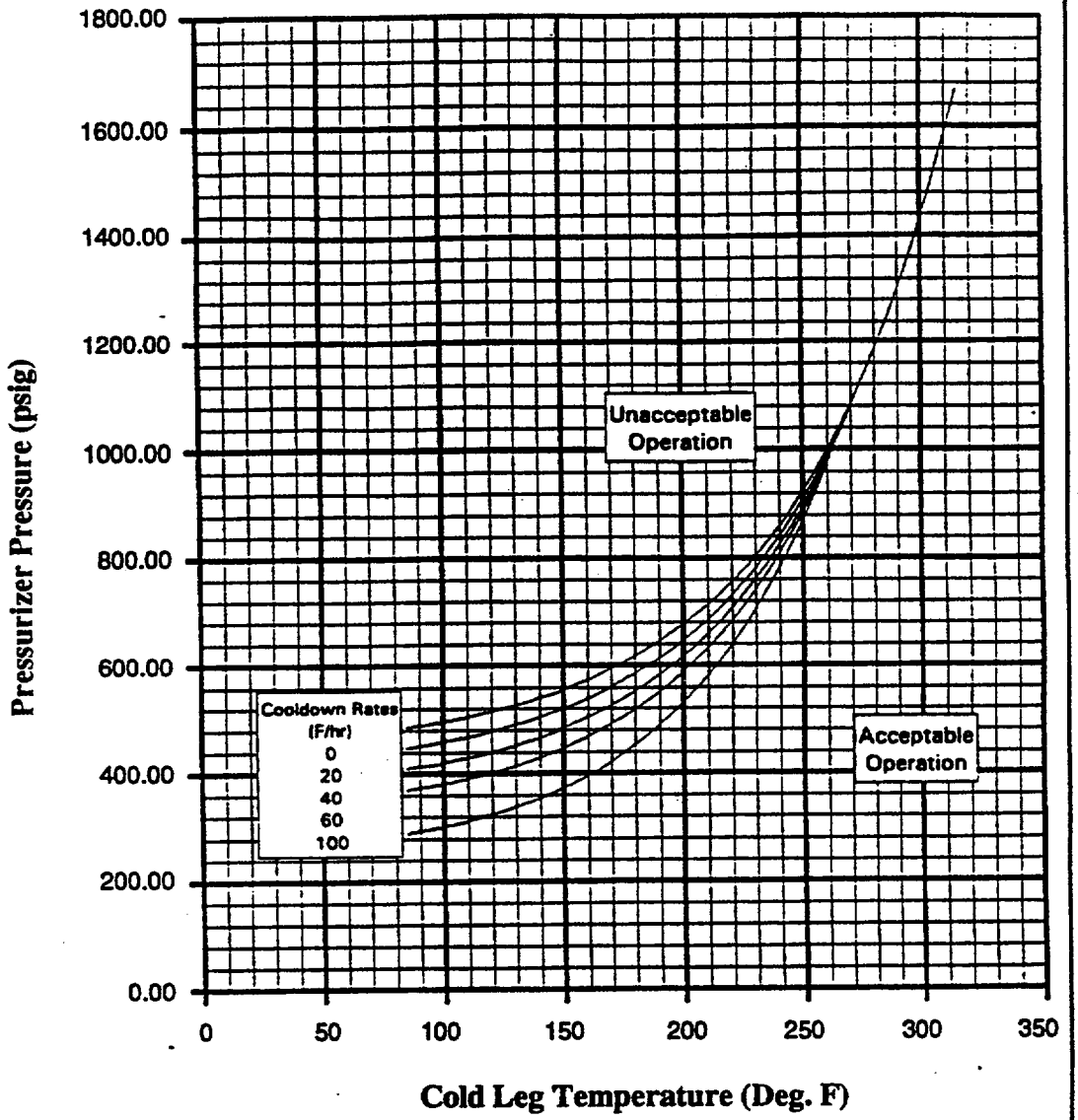
ITS

(A.1)

Figure 3.4.3-4

Figure 3.4-3 — **North Anna Unit 2**
Reactor Coolant System Cooldown Limitations

Material Property Basis
Limiting Material: Lower Shell Plate
Limiting ART at 17 EFPY: 1/4-T, 196 F
3/4-T, 172 F



North Anna Unit 2 Reactor Coolant System Cooldown Limitations (Cooldown Rates up to 100 F/hr) Applicable for the First 17 EFPY (Without Margins for Instrumentation Errors)

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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 3.4.9.1 states that the RCS temperature and pressure shall be limited "during heatup, cooldown, and inservice leak and hydrostatic testing." CTS 3.4.9.1 is applicable at all times. ITS 3.4.3 states that the RCS pressure, temperature, and RCS heatup and cooldown rates shall be maintained. ITS 3.4.3 is applicable at all times. This changes the CTS by eliminating the LCO requirement that the limits must be met during heatup, cooldown, and inservice leak and hydrostatic testing.

This change is acceptable because the CTS and ITS limits are applicable at all times, including during heatup, cooldown, and inservice leak and hydrostatic testing. Stating that the limits are applicable during heatup, cooldown, and inservice leak and hydrostatic testing in the LCO presents an apparent conflict with the Applicability which states that the limits apply at all times. This change is designated as administrative as it is an editorial change to eliminate an apparent conflict in the CTS.

A.3 CTS 3.4.9.1 Action states that with any of the P/T limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of limit condition on the structural integrity of the RCS; determine that the RCS remains acceptable for continued operations. ITS 3.4.3, Conditions A and C state that when the requirements of the LCO are not met, the parameters must be restored to within limits and it must be determined that the RCS acceptable for continued operation. ITS 3.4.3, Conditions A and C are modified by a Note which requires the determination that the RCS is acceptable for continued operation to be performed whenever the Condition is entered. This changes the CTS by explicitly stating that a determination that the RCS is acceptable for continued operation must be performed whenever the condition is entered. Other changes to the Actions are described in other DOCs.

This change is acceptable because it is the current understanding and application of the CTS Action. The CTS 3.4.9.1 Action is currently interpreted as requiring a determination that the RCS is acceptable for continued operation whenever the LCO is not met. This change is designated as editorial as it clarifies the current understanding of the CTS requirement.

A.4 CTS 3.4.9.1 Action states that with any of the P/T limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of limit condition on the structural integrity of the RCS; determine that the RCS remains acceptable for continued operations. ITS 3.4.3, Conditions A and C divide the Conditions. ITS 3.4.3 Condition A is applicable when the requirements of the LCO are not met in MODES 1, 2, 3, and 4. Condition C is applicable when the requirements of the LCO are not met any time in other than MODE 1, 2, 3, or 4. Any technical changes resulting from this division are discussed in other DOCs.

This change is acceptable because it is an editorial change to make the CTS consistent with the ITS presentation. This change is designated as editorial because it does not result in any technical change to the technical specifications.

A.5 CTS 4.4.9.1.2 states that the reactor vessel material irradiation surveillance specimens shall be removed and examined to determine changes in material properties at the intervals required by 10 CFR 50, Appendix H. The results of these examinations shall be used to update the P/T limit curves. ITS 3.4.3 does not contain this Surveillance.

This change is acceptable because the surveillance is unnecessary and repetitive. The unit is required to remove material irradiation surveillance specimens and generate P/T curves in accordance with 10 CFR 50, Appendix H. Therefore, the surveillance serves no purpose and is removed. This change is designed as administrative as it eliminates a requirement that is duplicative of a requirement in the CFR.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.9.1 Action states that with any of the P/T limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of limit condition on the structural integrity of the RCS; determine that the RCS remains acceptable for continued operations or be in at least hot standby within the next 6 hours and reduce the RCS T_{avg} and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours. ITS 3.4.3, Condition C, states that with the requirements of the LCO not met any time in other than in MODE 1, 2, 3, or 4, initiate immediate action to restore the parameter(s) to within limits and determine the RCS is acceptable for continued operation prior to entering MODE 4. This changes the CTS by requiring immediate action to restore the parameters to within limits when the LCO is not met any time in other than MODE 1, 2, 3, or 4 when the CTS allows 30 minutes to restore parameters.

This change is acceptable because in MODES other than 1, 2, 3, or 4 the RCS temperature is lower and the limits on RCS pressure are more restrictive. Therefore, it is important to restore the parameters within limit as soon as possible. This change is

designated as more restrictive as it requires immediate action in a condition for which the CTS allows 30 minutes before requiring action.

M.2 CTS 3.4.9.1 Action states that if the P/T limits are exceeded, an evaluation must be performed to determine if the RCS remains acceptable for continued operation. No time limit is given for the performance of this evaluation. ITS 3.4.3, Actions A.2 and C.2 states that when the LCO is not met, an evaluation to be performed to determine if the RCS is acceptable for continued operation within 72 hours.

This change is acceptable because it provides adequate time to evaluate a violation of the LCO requirements. Without a time limit, the Action could be construed to allow an indefinite time to perform the evaluation. This change is designated as more restrictive as it provides a limited time to perform an action for which the CTS provides no time limit.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.4.9.1 states that the RCS (except the pressurizer) temperature and pressure shall be limited. The LCO also contains limits on RCS heatup and cooldown rates. ITS 3.4.3 states that the RCS pressure, temperature, and RCS heatup and cooldown rates shall be maintained within limits. This changes the CTS by moving the exclusion of the pressurizer from the LCO 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 P/T limits on the RCS. Neither the CTS or the ITS P/T limits apply to the pressurizer. It is the ITS convention to state this detail of the LCO in the ITS Bases. This detail of the LCO is not required to be in the Technical Specifications in order to provide adequate protection of the public health and safety. 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 and Related Reporting Problems)* CTS 3.4.9.1 Action states that with any of the P/T limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of limit condition on the

structural integrity of the RCS; determine that the RCS remains acceptable for continued operations or be in at least hot standby within the next 6 hours and reduce the RCS T_{avg} and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours. ITS 3.4.3, Conditions A and C state that with the requirements of the LCO not met, restore the parameter(s) to within limit(s) and determine the RCS is acceptable for continued operation. This changes the CTS by moving the requirement to perform an engineering evaluation to determine the effects of the out-of limit condition on the structural integrity of the RCS to the Bases.

The removal of these details for performing actions 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 determine that the RCS remains acceptable for continued operation and this detail of how the determination is made is not required to be in the Technical Specifications in order to provide adequate protection of the public health and safety. The requirement to perform an engineering evaluation to determine the effects of the out-of limit condition on the structural integrity of the RCS is a step in determining that the RCS remains acceptable for continued operation. Therefore, this detail on how the determination is made is moved to the Bases, which provides additional detail on how the determination should be made. 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

UNIT 1

ITS

A.1

6-2-81

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION 28

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

OPERABLE and

A.2

3.4.4 3.4.1.1 All reactor coolant loops shall be in operation with power removed from the loop stop valve operators.

See 3.4.17

Appl. APPLICABILITY: MODES 1 and 2.*

A.3

ACTION:

Action A With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within ~~1 hour~~ 6 hours

L.1

28

SURVEILLANCE REQUIREMENT

SR 3.4.4.1 4.4.1.1 The above required reactor coolant loops shall be verified to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours.

LA.1

4.4.1.2 At least once per 31 days, with the reactor coolant loops in operation by verifying that the power is removed from the loop stop valve operators.

See 3.4.17

~~*See Special Test Exception 3.10.4.~~

A.3

UNIT 2

ITS 3.4.4

A.1

ITS

8-21-80

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION OPERABLE and A.2

3.4.4

3.4.1.1 All reactor coolant loops shall be in operation with power removed from the loop stop valve operators. (see 3.4.17)

Appl.

APPLICABILITY: MODES 1 and 2.* A.3

ACTION:

Action A

With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within ~~1 hour~~ 6 hours L.1

SURVEILLANCE REQUIREMENTS

SR 3.4.4.1

4.4.1.1 The above required reactor coolant loops shall be verified to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours. LA.1

4.4.1.2 At least once per 31 days, with the reactor coolant loops in operation by verifying that the power is removed from the loop stop valve operators. (See 3.4.17)

~~* See Special Test Exception 3.10.4.~~ A.3

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 3.4.1.1 states that all reactor coolant loops shall be in operation. ITS 3.4.4 states that three reactor coolant loops shall be OPERABLE and in operation. This changes the CTS by requiring the RCS loops to be OPERABLE.

This change is acceptable because it is consistent with the current use and understanding of the LCO. It not sufficient for a loop to be in operation if it is not capable of performing its safety function (i.e., OPERABLE). This change is designated as administrative as it clarifies the current understanding of a requirement.

A.3 The Applicability of CTS 3.4.1.1 is MODES 1 and 2 with a footnote stating, "See Special Test Exception 3.10.4." ITS 3.4.4 Applicability does not contain the footnote or a reference to the Special Test Exception.

The purpose of the footnote reference is to alert the reader that a Special Test Exception exists which may modify the Applicability of the specification. It is an ITS convention to not include these types of footnotes or cross-references. This change is designated as editorial as it incorporates an ITS convention with no technical change to the Technical Specifications.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 - Removing Procedural Details for Meeting TS Requirements)* CTS Surveillance 4.4.1.1 states that the required reactor coolant loops shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. ITS SR 3.4.4.1 states that each reactor coolant loop shall be verified to be in operation every 12 hours. This changes the CTS by moving the Surveillance requirement to verify that the reactor coolant loops are circulating reactor coolant to the Bases.

The removal of this detail for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be in the Technical Specifications in order to provide adequate protection of the public health and safety. The ITS retains the requirement that a reactor coolant loop be in operation, and a loop that is in operation will be circulating reactor coolant. As described in the ITS Bases, verification that a reactor coolant loop is in operation includes flow rate, temperature, or pump status monitoring. 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 form the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 3 - Relaxation of Completion Time)* CTS 3.4.1.1 states that when the reactor coolant loop requirements are not met, the unit must be in HOT STANDBY within 1 hour. ITS 3.4.4 states that when the reactor coolant loop requirements are not met, the unit must be in MODE 3 within 6 hours. This changes the CTS by relaxing the Completion Time from 1 hour to 6 hours.

The purpose of CTS 3.4.1.1 is to require a plant shutdown if the necessary reactor coolant flow is not available. This change is acceptable because the Completion Time is 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 allowed Completion Time. Operating experience has shown that 6 hours is a reasonable time to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. It is likely that failure to meet the LCO requirements will lead to a reactor trip on low flow. If, however, the LCO is not met for a reason that does not lead to a reactor trip, 6 hours to transition from full power operation to MODE 3 is consistent with the Completion Time provided for a loss of safety function for other systems and with LCO 3.0.3. 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.

UNIT 1

6-2-81

ITS

A.1

REACTOR COOLANT SYSTEM

HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.5

3.4.1.2 a. At least two of the reactor coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,
2. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,
3. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,

LA.1

b. At least one of the above coolant loops shall be in operation.*

Appl.

APPLICABILITY: MODE 3

ACTION:

one of

Action A
Action B

a. With less than the above required reactor coolant loops OPERABLE, restore the required loop to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

M.1

Action C

b. With no reactor coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

28 L.1

Insert proposed Action C

SURVEILLANCE REQUIREMENTS

Insert proposed SR 3.4.5.3 Note

SR 3.4.5.3

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

L.2

SR 3.4.5.1

4.4.1.2.2 At least one cooling loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

LA.2

M.3

per 8 hour period

LCO NOTE

*All reactor coolant pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

L.1

Insert proposed LCO Note a

3.4.5.2

Verify steam generator secondary side water levels are ≥ 17% for required RCS loops every 12 hours.

M.2

Rev. 0

UNIT 2

10-05-94

A.1

REACTOR COOLANT SYSTEM

HOT STANDBY

ITS

LIMITING CONDITION FOR OPERATION

3.4.5

3.4.1.2 a. At least two of the reactor coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,
2. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,
3. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,

LA.1

b. At least one of the above coolant loops shall be in operation.*,(**)

A.2

Appl.

APPLICABILITY: MODE 3

ACTION:

Action A
Action B

a. With less than (one of) the above required loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

M.1

Action C

b. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective actions to return the required coolant loop to operation.

L.1

SURVEILLANCE REQUIREMENTS (Insert proposed Action c)

L.2

SR 3.4.5-3

(Insert proposed SR 3.4.5.3 Note)

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

SR 3.4.5.1

4.4.1.2.2 At least one cooling loop shall be verified to be in operation and circulating coolant at least once per 12 hours.

LA.2

SR 3.4.5.2

Verify steam generator secondary water levels are ≥ 17% for required RCS loops every 12 hours.

M.2

LCO NOTE

* All reactor coolant pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

(per 8 hour period)

M.3

** The requirement to have one coolant loop in operation is exempted during the performance of the boron mixing tests as stipulated in License Condition 2.C(15)(f) and 2.C(20)(b).

A.2

Insert proposed LCO Note a

L.1

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 3.4.1.2, Unit 2 only, contains a footnote that states that the requirement to have one coolant loop in operation is exempted during the performance of the boron mixing tests as stipulated in License Condition 2.C(15)(f) and 2.C(20)(b). ITS 3.4.5 does not contain this footnote.

This change is acceptable because this footnote is no longer applicable. Unit 2 License Condition 2.C(15) contains actions that must be completed prior to resuming power operation following the first refueling outage. License Condition 2.C(15)(f) requires VEPCO to submit for Commission approval the results of the tests applicable to North Anna Power Station, Unit 2, of a study concerning mixing of added borated water and cooldown under natural circulation conditions. Unit 2 License Condition 2.C(20) contains requirements contained in Supplement 11 to the Safety Evaluation Report for the North Anna Power Station, Unit 2, dated August 1980. License Condition 2.C(20)(b) (second paragraph) requires VEPCO to perform a boron mixing and cooldown test using decay heat within 31 days after burnup sufficient to produce at least 10 hours of decay head equivalent to one percent of rated thermal power. These License Conditions have been completed and the footnote taking an exception to the LCO requirements in order to perform the tests is no longer needed. This change is designated as administrative as it eliminates an exception which is no longer applicable.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.1.2, Action a, states that when less than the two required reactor coolant loops are OPERABLE, the required loop must be restored to OPERABLE status within 72 hours. CTS 3.4.1.2, Action b , states that when no reactor coolant loops are in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required loop to operation. ITS 3.4.5, Action A, states that when one of the two required RCS loops is inoperable, it must be restored within 72 hours. Action C states that if two required RCS loops are inoperable or the required RCS loop(s) are not in operation, the Rod Control System must be placed in a condition incapable of rod withdrawal, operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1 must be suspended, and action must be immediately initiated to restore one RCS loops to

operable status and operation. This changes the CTS by revising the actions to be taken if both required RCS loops are inoperable. The change in the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1 is described in DOC L.1.

This change is acceptable because it provides appropriate actions for a loss of all OPERABLE RCS loops. If both required RCS loops are inoperable, allowing 72 hours to restore an RCS loop to OPERABLE status is inappropriate as the loops may not be able to remove the decay heat generated by the reactor. Immediate action is necessary. Also, the inadvertent rod withdrawal accident assumes one cooling loop is in operation. With no loops in operation, inadvertent rod withdrawal must be prevented. This change is designated as more restrictive because it requires immediate action in a condition for which the CTS allows 72 hours prior to requiring action.

M.2 CTS 3.4.1.2 requires two reactor coolant loops to be OPERABLE with each loop consisting of an RCS loop, its associated steam generator, and the reactor coolant pump. CTS 3.4.1.2 does not contain any OPERABILITY requirements for the steam generator. ITS SR 3.4.5.2 requires verification that each required steam generator has a secondary side water level ≥ 17% (narrow range instrumentation) every 12 hours.

This change is acceptable because the reactor coolant system loops cannot remove decay heat from the reactor without a heat sink in the steam generators. The narrow range level of 17% is chosen to ensure that the tubes do not become uncovered. This requirement exists in CTS Surveillance 4.4.1.3.3 (RCS Loops - MODES 4 and 5) for required steam generators and is equally applicable to MODE 3. This change is designated as more restrictive because it applies new requirements on the steam generators.

M.3 CTS 3.4.1.2 states that at least two reactor coolant loops shall be OPERABLE and at least one must be in operation. This requirement is modified by a note that states that all reactor coolant pumps may be de-energized for up to 1 hour. ITS 3.4.5 contains the same allowance, but limits the use of the 1 hour exception to once per 8 hour period.

The purpose of the 1 hour allowance is to allow the performance of certain infrequent startup tests which require reactor coolant flow to be stopped. This change is acceptable because it ensures that boron stratification or inadequate decay heat removal do not occur should multiple 1 hour periods be required to complete the tests. This change is designated as more restrictive because it limits an allowance to 1 hour per 8 hour period when that restriction does not currently exist.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.4.1.2 states that two reactor coolant loops shall be OPERABLE and contains a description of what constitutes an OPERABLE loop. ITS 3.4.5 requires two RCS loops to be OPERABLE. This changes the CTS by moving the details of what constitutes an OPERABLE loop 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 a requirement for the RCS 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)* CTS Surveillance 4.4.1.2.2 states that at least one required reactor coolant loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. ITS SR 3.4.5.1 states that the required reactor coolant loop shall be verified to be in operation every 12 hours. This changes the CTS by moving the requirement to verify that the reactor coolant loops are circulating reactor coolant to the Bases.

The removal of this detail for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be in the Technical Specifications in order to provide adequate protection of the public health and safety. The ITS retains the requirement that a reactor coolant loop be in operation, and a loop that is in operation will be circulating reactor coolant. As described in the ITS Bases, verification that a reactor coolant loop is in operation includes flow rate, temperature, or pump status monitoring. 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 form the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.4.1.2, Note "*" states that all reactor coolant pumps may be deenergized for up to 1 hour provided no operations are permitted that would cause dilution of the reactor coolant system boron concentration. CTS 3.4.1.2, Action b , states that when no reactor coolant loops are in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required loop to operation. ITS LCO 3.4.5 Note 1 states

that all reactor coolant pumps may be not in operation provided no operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1. ITS 3.4.5, Action C states that if two required RCS loops are inoperable or the required RCS loop(s) are not in operation, operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1 must be suspended, and action must be immediately initiated to restore one RCS loops to operable status and operation. This relaxes the CTS Required Actions by revising the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1.

The purpose of the CTS 3.4.1.2 LCO note and of Action b, is to ensure that "pockets" of coolant with boron concentration less than that required to maintain the SDM are not created when there is no forced flow through the reactor. 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 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 repair period. As long as coolant with boron concentration less than that required to meet the SDM requirement in LCO 3.1.1 is not introduced into the RCS, there is no possibility of creating "pockets" of coolant with less than the required boron concentration. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.4.1.2.1 states that the required RCPs, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. ITS SR 3.4.5.3 requires verification of correct breaker alignment and indicated power availability to the that is not in operation required pump every 7 days. It is modified by a Note which states, "Not required to be performed until 24 hours after a required pump is not in operation." This changes the CTS by not requiring the SR to be performed until 24 hours after a pump is taken out of operation.

The purpose of 4.4.1.2.1 is to ensure that the standby RCP is ready to operate. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The Note provides time to perform the Surveillance to verify correct breaker alignment and indicated power availability. Without the Note, the Surveillance would not be met immediately after taking a pump out of operation. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

UNIT 1

10-05-94

ITS

A.1

Consisting of any combination of RCS loops and RHR loops

REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.4.6

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*
2. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*
3. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*
4. Residual Heat Removal Subsystem A,**
5. Residual Heat Removal Subsystem B.**

LA.1

b. At least one of the above coolant loops shall be in operation.***

L.1

Appl.

APPLICABILITY: MODES 4 and 5 (see ITS 3.4.7 and 3.4.8)

Insert proposed Action A

ACTION:

Action A

a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; be in COLD SHUTDOWN within 20 hours.

Action B

b. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

M.1

L.3

Insert proposed Action B

LCO Note 2

* A reactor coolant pump shall not be started with one or more of the RCS cold leg temperatures less than or equal to 235°F unless the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

** The offsite or emergency power source may be inoperable in MODE 5. (see ITS 3.4.7 and 3.4.8)

LCO Note 1

*** All reactor coolant pumps and residual heat removal pumps may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and 2) core outlet temperature is maintained at least 10°F below saturation temperature.

Insert proposed LCO Note a

L.3

per 8 hour period

M.2

ITS

A.1

REACTOR COOLANT SYSTEM

SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 ~~The required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2.~~ A.2

Insert proposed SR 3.4.6.3 Note L.2

SR 3.4.6.3

4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability.

SR 3.4.6.2

4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 17% at least once per 12 hours.

SR 3.4.6.1

4.4.1.3.4 At least once per 12 hours, verify at least one coolant loop to be in operation and ~~circulating reactor coolant~~ by: LA.2

a. Verifying at least one Reactor Coolant Pump is in operation.

or

b. Verifying at least one RHR Loop is in operation and,

~~1. if the RCS temperature > 140°F or the time since entry into MODE 3 is < 100 hours, circulating reactor coolant at a flow rate ≥ 3000 gpm.~~

~~or~~

~~2. if the RCS temperature ≤ 140°F and the time since entry into MODE 3 is ≥ 100 hours, circulating reactor coolant at a flow rate ≥ 2000 gpm to remove decay heat.~~

LA.3

UNIT 2

A.1

10-05-94

Consisting of any combination of RCS loops and RHR loops

REACTOR COOLANT SYSTEM

ITS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.4.6

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*
2. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*
3. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*
4. Residual Heat Removal Subsystem A,**
5. Residual Heat Removal Subsystem B.**

LA.1

b. At least one of the above coolant loops shall be in operation.***

L.1

Appl. **APPLICABILITY:** MODES 4 and 5 (see ITS 3.4.7 and 3.4.8)

ACTION:

Insert proposed Action A

Action A

a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; be in COLD SHUTDOWN within 20 hours.

Action B

Action C

b. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.

M.1

L.3

Insert proposed Action B

LCO Note 2

* A reactor coolant pump shall not be started with one or more of the RCS cold leg temperatures less than or equal to 270°F unless the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

** The offsite or emergency power source may be inoperable in MODE 5. (see ITS 3.4.7 and 3.4.8)

*** All reactor coolant pumps and residual heat removal pumps may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and 2) core outlet temperature is maintained at least 10°F below saturation temperature.

Insert proposed LCO Note a

L.3

LCO Note 1

per 8 hour period

M.2

A.1

REACTOR COOLANT SYSTEM

ITS

SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 ~~The required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2.~~ A.2 L.2

Insert proposed SR 3.4.6.3 note

SR 3.4.6.3 4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability.

SR 3.4.6.2 4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 17% at least once per 12 hours.

SR 3.4.6.1 4.4.1.3.4 At least once per 12 hours, verify at least one coolant loop to be in operation and circulating reactor coolant by: LA.2

a. Verifying at least one Reactor Coolant Pump is in operation.

or

b. Verifying at least one RHR Loop is in operation and,

1. if the RCS temperature > 140°F or the time since entry into MODE 3 is < 100 hours, circulating reactor coolant at a flow rate ≥ 3000 gpm.

or

2. if the RCS temperature ≤ 140°F and the time since entry into MODE 3 is ≥ 100 hours, circulating reactor coolant at a flow rate ≥ 2000 gpm to remove decay heat.

LA.3

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 Surveillance 4.4.1.3.1 states that the required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2. ITS 3.4.6 does not contain this Surveillance.

This change is acceptable because the ITS does not contain a specification which is equivalent to Surveillance 4.7.9.2. The disposition of the requirements in Surveillance 4.7.9.2 will be addressed in DOCs for Specification 3.7.9.2. This change is designated as administrative as it eliminates a reference to a specification which does not exist in the ITS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.1.3, Action a, states that when less than the two required coolant loops are OPERABLE, immediate action must be taken to return the required loops to OPERABLE status as soon as possible and the unit must be in cold shutdown within 20 hours. CTS 3.4.1.3, Action b, states that when no coolant loops are in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required coolant loop to operation. ITS 3.4.6, Action A applies when one of the required coolant loops is inoperable. ITS 3.4.6, Action B, states that if two of the required coolant loops are inoperable or the required loop is not in operation, operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1 must be suspended, and action must be immediately initiated to restore one coolant loop to operable status and operation. This changes the CTS by revising the actions to be taken if both required coolant loops are inoperable. Both the CTS and the ITS require immediate initiation of corrective action to return the required loops to OPERABLE status. The change in the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1 is described in DOC L.3.

This change is acceptable because it provides appropriate actions for a loss of all OPERABLE coolant loops. If both required coolant loops are inoperable, requiring a cooldown to MODE 5 is inappropriate as there are no OPERABLE cooling loops to

perform the cooldown. Requiring immediate actions to avoid boron stratification and to restore a loop to OPERABLE status are appropriate. This change is designated as more restrictive because is requires immediate action stop RCS boron concentration reductions in a condition for which the CTS allows 20 hours prior to completing a cooldown.

M.2 CTS 3.4.1.3 states that at least two coolant loops shall be OPERABLE and at least one must be in operation. This requirement is modified by a note that states that all reactor coolant pumps and residual heat removal pumps may not be in operation for up to 1 hour. ITS 3.4.6 contains the same allowance, but limits the use of the 1 hour exception to once per 8 hour period.

The purpose of the 1 hour allowance is to allow the performance of certain infrequent startup tests which require coolant flow to be stopped. This change is acceptable because it ensures that boron stratification or inadequate decay heat removal do not occur should multiple 1 hour periods be required to complete the tests. This change is designated as more restrictive because it limits an allowance to 1 hour per 8 hour period when that restriction does not currently exist.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.4.1.3 states that two coolant loops consisting of any combination of RCS loops and RHR loops shall be OPERABLE and contains a description of what constitutes an OPERABLE Reactor Coolant loop and Residual Heat Removal loop. ITS 3.4.5 requires two loops consisting of any combination of RCS loops and RHR loops to be OPERABLE. This changes the CTS by moving the the details of what constitutes an OPERABLE loop 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 that the loops be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the UFSAR, the Technical Requirements Manual, or the ITS Bases, as appropriate. 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)* CTS Surveillance 4.4.1.3.4 states that at least one Reactor Coolant pump or RHR loop shall be verified to be in

operation and circulating reactor coolant at least once per 12 hours. ITS SR 3.4.6.1 states that an RHR or RCS loop shall be verified to be in operation every 12 hours. This changes the CTS by moving the requirement to verify that the coolant loop is circulating reactor coolant to the Bases. Other changes to CTS Surveillance 4.4.1.3.4 are described in LA.3.

The removal of this detail for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be in the Technical Specifications in order to provide adequate protection of the public health and safety. The ITS retains the requirement that a reactor coolant loop be in operation, and a loop that is in operation will be circulating reactor coolant. As described in the ITS Bases, verification that a reactor coolant loop is in operation includes flow rate, temperature, or pump status monitoring. 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 form the Technical Specifications.

LA.3 *(Type 3 - Removing Procedural Details for Meeting TS Requirements)* CTS Surveillance 4.4.1.3.4 states that at least once per 12 hours it must be verified that at least one coolant loop is in operation and circulating reactor coolant by verifying at least one RCP is in operation or at least one RHR loop is in operation. It goes on to provide minimum RHR flow rates dependent on RCS temperature or time since entry into MODE 3. ITS Surveillance 3.4.6.1 requires verification that one RHR or RCS loop is in operation every 12 hours. This changes the CTS by moving the RHR minimum flow requirements to the Technical Requirements Manual.

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 requires the operating coolant loop be OPERABLE. An OPERABLE RHR loop must be capable to performing its specified safety function. The function of an RHR loop is to remove decay heat. The specific flow rates needed to balance the decay heat removal requirements with the need to avoid RHR pump vortexing are a detail of testing. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. 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 4 – Relaxation of Required Action)* CTS 3.4.1.3, Action a, states that with less than the two required coolant loops OPERABLE, action must be immediately initiated to

return the required loops to OPERABLE status as soon as possible and to be in COLD SHUTDOWN within 20 hours. ITS 3.4.6, Action A, states that when one required loop is inoperable, action must be initiated immediately to restore the required loop to OPERABLE status. Action A also requires the plant to be in MODE 5 within 24 hours, but only if an RHR loop is OPERABLE. This changes the CTS by providing an exception to the requirement to be in MODE 5 and allowing 24 hours instead of 20 hours to reach MODE 5.

The purpose of CTS 3.4.1.4, action a, is to require the plant to be brought to a MODE in which the LCO does not apply. 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 revised actions provide appropriate compensatory measures for an inoperable loop. The CTS requires a cooldown to MODE 5 even if no RHR loops are OPERABLE (i.e., the only OPERABLE loop is an RCS loop.) With only an RCS loop OPERABLE, it is safer to stay in MODE 4 so that the steam generators can be used to remove decay heat. If a cooldown to MODE 5 is required, allowing 24 hours instead of 20 hour is consistent with the times provided in other specifications, including ITS LCO 3.0.3, to transition from MODE 4 to MODE 5 and is a reasonable time to reach MODE 5 from MODE 4 in an orderly manner and without challenging plant systems. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.4.1.3.2 states that the required pumps, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. ITS SR 3.4.6.3 requires verification of correct breaker alignment and indicated power availability to the required pump that is not in operation every 7 days. It is modified by a Note which states, "Not required to be performed until 24 hours after a required pump is not in operation." This changes the CTS by not requiring the SR to be performed until 24 hours after a pump is taken out of operation.

The purpose of 4.4.1.3.2 is to ensure that the standby pump is ready to operate. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The Note provides time to perform the Surveillance to verify correct breaker alignment and indicated power availability. Without the Note, the Surveillance would not be met immediately after taking a pump out of operation. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.4.1.3, Note "*" states that all reactor coolant pumps and RHR pumps may be deenergized for up to 1 hour provided no operations are permitted that would cause dilution of the reactor coolant system boron concentration. CTS 3.4.1.2, Action b , states that when no coolant loop is in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required loop to operation. ITS LCO 3.4.6 Note 1 states that all reactor coolant pumps and RHR pumps may be not in operation provided no operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1. ITS 3.4.6, Action B states that if two required loops are inoperable or the required loop(s) are not in operation, operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1 must be suspended, and action must be immediately initiated to restore one loop to operable status and operation. This relaxes the CTS Required Actions by revising the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1.

The purpose of the CTS 3.4.1.3 LCO note and of Action b, is to ensure that "pockets" of coolant with boron concentration less than that required to maintain the SDM are not created when there is no forced flow through the reactor. 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 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 repair period. As long as coolant with boron concentration less than that required to meet the SDM requirement in LCO 3.1.1 is not introduced into the RCS, there is no possibility of creating "pockets" of coolant with less than the required boron concentration. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

UNIT 1

A.1

10-05-94

ITS

REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

the secondary side of at least one steam generator shall be ≥ 17% ... L.1

LCO 3.4.7

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*
2. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*
3. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*
4. Residual Heat Removal Subsystem A,**
5. Residual Heat Removal Subsystem B.**

RHR M.1

b. At least one of the above coolant loops shall be in operation.***

Appl. APPLICABILITY: MODES 4 and 5 (See ITS 3.4.6) with RCS loops filled A.2

ACTION: Insert

Action a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; be in COLD SHUTDOWN within 20 hours. M.2 A.3

Action b. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation. M.2

Insert proposed Action C L.4

Action C

LCO Note 2 Insert proposed LCO Note 2 L.2

LCO Note 4 Insert proposed LCO Note 4 A.5

LCO Note 3

* A reactor coolant pump shall not be started with one or more of the RCS cold leg temperatures less than or equal to 235°F unless the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

** The offsite or emergency power source may be inoperable in MODE 5. A.4

*** All reactor coolant pumps and residual heat removal pumps may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and 2) core outlet temperature is maintained at least 10°F below saturation temperature. L.1 Insert proposed LCO Note 1a L.4

LCO Note 1

per 8 hour period M.3

INSERT

one RHR loop inoperable and required SG secondary side water level not within limits,

A.1

8-27-90

ITS

REACTOR COOLANT SYSTEM

SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 ~~The required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2.~~ A.6

SR 3.4.7.3

4.4.1.3.2 The required RHR ~~reactor coolant~~ pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. Insert proposed SR 3.4.7.3 Note A.2 L.3

SR 3.4.7.2

4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 17% at least once per 12 hours. L.1

SR 3.4.7.1

4.4.1.3.4 At least once per 12 hours, verify required ~~at least one~~ RHR ~~coolant~~ loop to be in operation and ~~circulating reactor coolant~~ by: LA.1

a. ~~Verifying at least one Reactor Coolant Pump is in operation.~~ L.1

~~or~~

required

b. Verifying required ~~at least one~~ RHR Loop is in operation ~~and~~:

1. ~~if the RCS temperature > 140°F or the time since entry into MODE 3 is < 100 hours, circulating reactor coolant at a flow rate ≥ 3000 gpm.~~ LA.2

~~or~~

2. ~~if the RCS temperature ≤ 140°F and the time since entry into MODE 3 is ≥ 100 hours, circulating reactor coolant at a flow rate ≥ 2000 gpm to remove decay heat.~~

UNIT 2

A.1 the secondary side of at least one steam generator shall be ≥ 17%

ITS

REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.4.7 3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. ~~Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*~~
2. ~~Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*~~
3. ~~Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*~~ L.1
4. Residual Heat Removal Subsystem A,**
5. Residual Heat Removal Subsystem B,** (RHR) M.1

b. At least one ~~of the above coolant~~ loops shall be in operation.***

Appl. APPLICABILITY: MODES ~~4 and 5~~ (See ITS 3.4.6) (with RCS loops filled) A.2

ACTION: (Insert) M.2

Action A a. With ~~less than the above required loops OPERABLE~~, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; ~~be in COLD SHUTDOWN within 20 hours.~~ A.3

Action B b. ~~With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation.~~ M.2 L.4

(Insert proposed Action C)

LCO Note 2 (Insert Proposed LCO NOTE 2) L.2

LCO Note 4 (Insert proposed LCO Note 4) A.5

LCO Note 3 * A reactor coolant pump shall not be started with one or more of the RCS cold leg temperatures less than or equal to 270°F unless the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

** ~~The offsite or emergency power source may be inoperable in MODE 5.~~ A.4

*** ~~All reactor coolant pumps and~~ residual heat removal pumps may be de-energized for up to 1 hour provided 1) ~~no operations are permitted that would cause dilution of the reactor coolant system boron concentration,~~ and 2) core outlet temperature is maintained at least 10°F below saturation temperature. L.1

LCO Note 1 (Insert proposed LCO Note 1a) L.4

(per 8 hour period) M.3

INSERT

one RHR loop inoperable and required SG secondary side water level not within limits,

A.1

ITS

REACTOR COOLANT SYSTEM

SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2. (RHR) — A.6

SR 3.4.7.3 4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. (Insert proposed SR 3.4.7.3 Note) — A.2, L.3

SR 3.4.7.2 4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 17% at least once per 12 hours. — L.1

SR 3.4.7.1 4.4.1.3.4 At least once per 12 hours, verify at least one (required) coolant (RHR) loop to be in operation and circulating reactor coolant by: — LA.1

a. Verifying at least one Reactor Coolant Pump is in operation. — L.1

or

(required) b. Verifying at least one RHR Loop is in operation and:

1. if the RCS temperature > 140°F or the time since entry into MODE 3 is < 100 hours, circulating reactor coolant at a flow rate ≥ 3000 gpm.

or

2. if the RCS temperature ≤ 140°F and the time since entry into MODE 3 is ≥ 100 hours, circulating reactor coolant at a flow rate ≥ 2000 gpm to remove decay heat. — LA.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.

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

A.2 CTS 3.4.1.3 is applicable in MODES 4 and 5. ITS 3.4.6 is applicable in MODE 4, ITS 3.4.7 is applicable in MODE 5 with the RCS loops filled, and ITS 3.4.8 is applicable in MODE 5 with the RCS loops not filled. Editorial changes are made in the division of the CTS requirements to the ITS.

This change is designated as editorial because all technical changes resulting from the division of CTS 3.4.1.3 are discussed in other DOCs.

A.3 CTS 3.4.1.3 states that with less than the required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible and be in cold shutdown (MODE 5) within 20 hours. ITS 3.4.7 states that when an RHR loop is inoperable, immediately initiate action to restore a second RHR loop to OPERABLE status. This changes the CTS by eliminating the requirement to be in MODE 5 within 20 hours.

This change is acceptable because ITS 3.4.7 is only applicable in MODE 5. Therefore, a requirement to be in MODE 5 is unneeded. This change is designated as administrative because it is an editorial change required by the division of CTS 3.4.1.3 into the ITS.

A.4 CTS 3.4.1.3 states that two coolant loops shall be OPERABLE, consisting of any combination of RCS and RHR loops. A footnote to the LCO states that the OPERABLE RHR loops may have inoperable offsite or emergency power sources in MODE 5. ITS 3.4.7 does not contain an allowance for an OPERABLE RHR loop to have an offsite or emergency power source inoperable.

This change is acceptable because the ITS definition of OPERABLE allows an OPERABLE component to have either a normal or emergency power source. This change to the CTS definition of OPERABLE is discussed in the Section 1.0 Discussion of Change. Given this change to the definition of OPERABLE, a specific allowance for the RHR loops is not required. This change is designated as editorial as it replaces a specific exception with an ITS change in the definition of OPERABLE.

A.5 CTS 3.4.1.3 is applicable in MODES 4 and 5 and allows any combination of two coolant loops to satisfy the LCO. ITS 3.4.7 is applicable in MODE 5 with the RCS loops filled and requires one RHR loop to be OPERABLE and in operation. ITS 3.4.7 contains a Note which allows all RHR loops to be removed from operation during planned heatup to MODE 4 when at least one RCS loop is in operation.

This change is acceptable because an RCS loop is capable of providing the necessary decay heat removal and reactor coolant flow. The ITS convention of dividing the coolant loop specifications between MODES 4 and 5 requires an allowance in the MODE 5 LCO for the starting of an RCP for heatup to MODE 4. Such an allowance is not needed in the CTS since an RCS loop can be used to satisfy the LCO. This change is designated as administrative because it is an editorial change required by the division of CTS 3.4.1.3 into the ITS.

A.6 CTS Surveillance 4.4.1.3.1 states that the required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2. ITS 3.4.7 does not contain this Surveillance.

This change is acceptable because the ITS does not contain a specification which is equivalent to Surveillance 4.7.9.2. The disposition of the requirements in Surveillance 4.7.9.2 will be addressed in DOCs for that specification. This change is designated as administrative as it eliminates a reference to a specification which does not exist in the ITS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.1.3 states that two coolant loops must be OPERABLE in MODES 4 and 5 and one loop must be in operation. The coolant loops may be any combination of RCS loops and RHR loops. ITS 3.4.7 states that one RHR loop must be OPERABLE and in operation in MODE 5 and an additional loop, consisting of another OPERABLE RHR loop or a steam generator filled to at least 17%, must be available. This changes the CTS by requiring one RHR loop to be OPERABLE and in operation in MODE 5 when an RCS or RHR loop is allowed by the CTS. The change to RCS loop requirements is described in L.1.

This change is acceptable because in MODE 5 the RHR system is the preferred decay heat removal mechanism. A second RHR loop is required to be OPERABLE for redundancy. The steam generator of an RCS loop may be used as a heat sink under natural circulation, but an RCP is not designed to provide forced flow under these conditions except during heatup to MODE 4. This change is designated as more restrictive as it eliminates the CTS allowance for an RCS loop to be the cooling loop in operation in MODE 5.

M.2 CTS 3.4.1.3, Action a, states that when less than the two required coolant loops are OPERABLE, immediate action must be taken to return the required loops to OPERABLE status as soon as possible and the unit must be in cold shutdown within 20 hours. CTS 3.4.1.3, Action b , states that when no coolant loops are in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required coolant loop to operation. ITS 3.4.7, Action A applies when one required RHR loop is inoperable and one RHR loop is OPERABLE or when one or more required steam generator secondary side water levels are not within limits and one RHR loop is OPERABLE and requires immediate action to restore the RHR or steam generator. ITS 3.4.7, Action B states that when one or more required SGs secondary side water levels are not within limits and one RHR loop is OPERABLE, action must be taken to restore a second RHR loop to OPERABLE status or to restore the SG secondary side water level within limit immediately. ITS 3.4.7, Action C, states that if no required RHR loops are OPERABLE or if the required RHR loop is not in operation, all operations cause introduction into the RCS, coolant with boron concentration less than required to meet SDM of LCO 3.1.1 be suspended and action must be immediately initiated to restore one RHR loop to OPERABLE status and operation. This changes the CTS by revising the actions to be taken if both RHR loops are inoperable. The change in the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1 is described in DOC L.4.

This change is acceptable because it provides appropriate actions for a loss of one or more required RHR loops or SGs. If both required RHR loops are inoperable, suspending all operations involving a reduction of RCS boron concentration is appropriate because all forced flow used to ensure proper mixing of RCS boron is lost. This change is designated as more restrictive because it adds an additional action to the CTS.

M.3 CTS 3.4.1.3 states that at least two coolant loops shall be OPERABLE and at least one must be in operation. This requirement is modified by a note that states that all reactor coolant pumps and residual heat removal pumps may be de-energized for up to 1 hour. ITS 3.4.7 also allows the RHR pumps to be stopped for 1 hour, but limits the use of the 1 hour exception to once per 8 hour period.

The purpose of the 1 hour allowance is to allow the performance of certain infrequent startup tests which require coolant flow to be stopped. This change is acceptable because it ensures that boron stratification or inadequate decay heat removal do not occur should multiple 1 hour periods be required to complete the tests. This change is designated as more restrictive because it limits an allowance to 1 hour per 8 hour period when that restriction does not currently exist.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS)* CTS Surveillance 4.4.1.3.4 states that at least one Reactor Coolant pump or RHR loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. ITS SR 3.4.7.1 states that an RHR loop shall be verified to be in operation every 12 hours. This changes the CTS by moving the requirement to verify that the RHR loop is circulating reactor coolant to the Bases. Other related changes are described in LA.3 and L.1.

The removal of this detail for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be in the Technical Specifications in order to provide adequate protection of the public health and safety. The ITS retains the requirement that a reactor coolant loop be in operation, and a loop that is in operation will be circulating reactor coolant. As described in the ITS Bases, verification that a reactor coolant loop is in operation includes flow rate, temperature, or pump status monitoring. 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 form the Technical Specifications.

LA.2 *(Type 3 - Removing Procedural Details for Meeting TS Requirements)* CTS Surveillance 4.4.1.3.4.b states that at least once per 12 hours it must be verified that one RHR loop is in operation. It goes on to provide minimum RHR flow rates dependent on RCS temperature or time since entry into MODE 3. ITS Surveillance 3.4.7.1 requires verification that one RHR loop is in operation every 12 hours. This changes the CTS by moving the RHR minimum flow requirements to the Technical Requirements Manual.

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 requires the operating coolant loop be OPERABLE. An OPERABLE RHR loop must be capable to performing its specified safety function. The function of an RHR loop is to remove decay heat. The specific flow rates needed to balance the decay heat removal requirements with the need to avoid RHR pump vortexing are a detail of testing. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. 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 1 – Relaxation of LCO Requirements)* CTS 3.4.1.3 states that a coolant loop used to satisfy the LCO requirements must consist of an RHR subsystem or a reactor coolant loop, its associated steam generator, and reactor coolant pump (RCP). CTS Surveillance 4.4.1.3.4 requires verification that one RHR loop or reactor coolant pump is in operation every 12 hours. ITS 3.4.7 states that a steam generator with a secondary side water level of 17% may be used to satisfy the LCO requirements. CTS SR 4.4.1.3.3 also states this requirement. This changes the CTS by eliminating the requirement that an RCS loop used to meet the LCO must have an OPERABLE RCP. ITS Surveillance 3.4.7.1 does not require verification than a reactor coolant pump is in operation.

This change is acceptable because the LCO requirements continue to ensure that the RCS is maintained consistent with the safety analyses and licensing basis. In MODE 5, the steam generator cannot produce steam and the RCP cannot provide forced flow (except during heatup operations). However, the steam generator is capable of being a heat sink using natural circulation due to the large contained volume of secondary water. Therefore, the ITS requirements on an RCS loop being credited to meet the LCO are appropriate. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.2 *(Category 1 – Relaxation of LCO Requirements)* ITS 3.4.7 contains a Note which allows one required RHR loop to be inoperable for up to 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation. This allowance does not exist in CTS 3.4.1.3.

This change is acceptable because the LCO requirements continue to ensure that the RCS is maintained consistent with the safety analyses and licensing basis. Absent the Note, surveillance testing could not be performed on an RHR loop if the steam generators were not available. During a refueling outage, the steam generators may be unavailable. Surveillance testing is necessary to confirm OPERABILITY of the RHR loop. Without the Note, Action A would require immediate action to restore the RHR loop to OPERABLE status, eliminating the opportunity to perform the required testing. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.3 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.4.1.3.2 states that the required pumps, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. ITS SR 3.4.7.3 requires verification of correct breaker alignment and indicated power availability to the required pump that is not in operation every 7 days. It is modified by a Note which states, "Not required to be performed until 24 hours after a required pump is not in operation." This changes the CTS by not requiring the SR to be performed until 24 hours after a pump is taken out of operation.

The purpose of 4.4.1.3.2 is to ensure that the standby pump is ready to operate. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The Note provides time to perform the Surveillance to verify correct breaker alignment and indicated power availability. Without the Note, the Surveillance would not be met immediately after taking a pump out of operation. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.4 *(Category 4 – Relaxation of Required Action)* CTS 3.4.1.3, Note "*" states that all reactor coolant pumps and RHR pumps may be deenergized for up to 1 hour provided no operations are permitted that would cause dilution of the reactor coolant system boron concentration. CTS 3.4.1.2, Action b , states that when no coolant loop is in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required loop to operation. ITS LCO 3.4.7 Note 1 states that all reactor coolant pumps and RHR pumps may be not in operation provided no operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1. ITS 3.4.7, Action C states that if no required loops are OPERABLE or the required RHR loop is not in operation, operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1 must be suspended, and action must be immediately initiated to restore one loop to operable status and operation. This relaxes the CTS Required Actions by revising the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1.

The purpose of the CTS 3.4.1.3 LCO note and of Action b, is to ensure that "pockets" of coolant with boron concentration less than that required to maintain the SDM are not created when there is no forced flow through the reactor. 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 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 repair period. As long as coolant with boron concentration less than that required to meet the SDM requirement in LCO 3.1.1 is not introduced into the RCS, there is no possibility of creating "pockets" of coolant with less than the required boron concentration. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

UNIT 1

A.1

ITS

REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.4.8

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*
2. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*
3. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*
4. Residual Heat Removal Subsystem A.**
5. Residual Heat Removal Subsystem B.**

A.2

b. At least one of the above coolant loops shall be in operation.***

Appl. APPLICABILITY: MODES 4 and 5 (see ITS 3.4.6) with RCS loops not filled A.3

Action A ACTION: One required RHR loop OPERABLE M.1

a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; be in COLD SHUTDOWN within 20 hours. A.4

Action B

b. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required coolant loop to operation. A.2 L.3 M.1

(not) Required RHR

Insert proposed Action B.1

OPERABLE status and

No required RHR loops OPERABLE or RHR A.2

LCO Note 2

Insert proposed LCO Note 2 L.1

Insert proposed LCO Note 1.6 L.3

* A reactor coolant pump shall not be started with one or more of the RCS cold leg temperatures less than or equal to 235°F unless the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures. A.2

** The offsite or emergency power source may be inoperable in MODE 5. A.5

LCO Note 1

*** All reactor coolant pumps and residual heat removal pumps may be de-energized for up to 1 hour provided 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration, and 2) core outlet temperature is maintained at least 10°F below saturation temperature. A.2 M.2

15 minutes when switching from one loop to another

3) no draining operations to further reduce the RCS water volume are permitted

ITS

A.1

REACTOR COOLANT SYSTEM

SHUTDOWN

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2. A.6

SR 3.4.8.2

4.4.1.3.2 The required ~~reactor coolant~~ RHR pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. Insert proposed SR 3.4.8.2 Note A.2 L.2

4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 17% at least once per 12 hours. A.2

SR 3.4.8.1

4.4.1.3.4 At least once per 12 hours, verify ~~at least one~~ required ~~coolant~~ RHR loop to be in operation ~~and circulating reactor coolant~~ by: A.2 LA.1

a. Verifying at least one Reactor Coolant Pump is in operation. A.2

or

b. Verifying at least one RHR Loop is in operation and,

1. if the RCS temperature > 140°F or the time since entry into MODE 3 is < 100 hours, circulating reactor coolant at a flow rate ≥ 3000 gpm.

or

2. if the RCS temperature ≤ 140°F and the time since entry into MODE 3 is ≥ 100 hours, circulating reactor coolant at a flow rate ≥ 2000 gpm to remove decay heat. LA.2

UNIT 2

A.1

ITS

REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.4.8

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. ~~Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,*~~
2. ~~Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,*~~
3. ~~Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,*~~
4. Residual Heat Removal Subsystem A,**
5. Residual Heat Removal Subsystem B.**

A.2

b. At least one of the above coolant loops shall be in operation.***

Appl.

APPLICABILITY: MODES 4 and 5 (see ITS 3.4.6) with RCS loops not filled A.3

ACTION:

Action A

a. With ~~less than~~ the above ~~required~~ loops ~~OPERABLE~~ (one RHR loop inoperable,) immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; ~~be in COLD SHUTDOWN within 20 hours.~~ A.4 M.1

Action B

b. With ~~no coolant~~ (required RHR) loop inoperation, ~~suspend all operations involving a reduction in boron concentration of the Reactor Coolant System~~ (Insert proposed Action B.1) and immediately initiate corrective action to return the required ~~coolant~~ (RHR) loop (OPERABLE status and) to operation. A.2 L.3 M.1

(no required RHR loops OPERABLE or)

LCO NOTE 2

Insert proposed LCO Note 2 A.2 L.1

Insert proposed LCO Note 1.b L.3

* ~~A reactor coolant pump shall not be started with one or more of the RCS cold leg temperatures less than or equal to 270°F unless the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.~~ A.2

** ~~The offsite or emergency power source may be inoperable in MODE 5.~~ A.5

LCO NOTE 1

*** All ~~reactor coolant pumps and~~ residual heat removal pumps may be de-energized for up to ~~1 hour~~ provided 1) ~~no operations are permitted that would cause dilution of the reactor coolant system boron concentration,~~ and 2) core outlet temperature is maintained at least 10°F below saturation temperature. A.2 M.2

(15 minutes when switching from one loop to another)

(3) No draining operations to further reduce the RCS water volume are permitted

A.1

REACTOR COOLANT SYSTEM

SHUTDOWN

ITS

SURVEILLANCE REQUIREMENTS

A.6

4.4.1.3.1 The required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2.

A.2

SR 3.4.8.2

4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. Insert proposed SR 3.4.8.2 Note

RHR

L.2

4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 17% at least once per 12 hours.

A.2

A.2

SR 3.4.8.1

4.4.1.3.4 At least once per 12 hours, verify at least one coolant loop to be in operation and circulating reactor coolant by:

required

RHR

LA.1

a. Verifying at least one Reactor Coolant Pump is in operation.

or

A.2

b. Verifying at least one RHR Loop is in operation and:

1. if the RCS temperature > 140°F or the time since entry into MODE 3 is < 100 hours, circulating reactor coolant at a flow rate ≥ 3000 gpm.

or

2. if the RCS temperature ≤ 140°F and the time since entry into MODE 3 is ≥ 100 hours, circulating reactor coolant at a flow rate ≥ 2000 gpm to remove decay heat.

LA.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 CTS 3.4.1.3 is applicable in MODES 4 and 5 and requires two coolant loops, consisting of any combination of RCS and RHR loops, to be OPERABLE. ITS 3.4.8 is applicable in MODE 5 with the RCS loops not filled. In this condition, the RCS loops cannot be used for decay heat removal and all references to the RCS loops, steam generators, and Reactor Coolant Pumps are removed.

This change is acceptable because it does not change the current requirements. With the RCS loops not filled, the RCS loops and the steam generators cannot be used for decay heat removal and cannot be OPERABLE. Therefore, the two RHR loops must be used as the OPERABLE loops in MODE 5 with the loops not filled. This change is designated as administrative because it is an editorial change resulting from the division of CTS 3.4.1.3 in the ITS.

A.3 CTS 3.4.1.3 is applicable in MODES 4 and 5. ITS 3.4.6 is applicable in MODE 4, ITS 3.4.7 is applicable in MODE 5 with the RCS loops filled, and ITS 3.4.8 is applicable in MODE 5 with the RCS loops not filled. This changes the CTS by dividing the CTS 3.4.1.3 requirements into three specifications with different applicabilities. Editorial changes are made in the division of the CTS requirements to the ITS.

This change is designated as administrative because all technical changes resulting from the division of CTS 3.4.1.3 are discussed in other DOCs.

A.4 CTS 3.4.1.3 states that with less than the required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible and be in cold shutdown (MODE 5) within 20 hours. ITS 3.4.8 states that when an RHR loop is inoperable, immediately initiate action to restore a second RHR loop to OPERABLE status. This changes the CTS by eliminating the requirement to be in MODE 5 within 20 hours.

This change is acceptable because ITS 3.4.8 is only applicable in MODE 5. Therefore, a requirement to be in MODE 5 is unneeded. This change is designated as administrative because it is an editorial change required by the division of CTS 3.4.1.3 into the ITS.

A.5 CTS 3.4.1.3 states that two coolant loops shall be OPERABLE, consisting of any combination of RCS and RHR loops. A footnote to the LCO states that the OPERABLE RHR loops may have inoperable offsite or emergency power sources in MODE 5. ITS 3.4.8 does not contain an allowance for an OPERABLE RHR loop to have an offsite or emergency power source inoperable.

This change is acceptable because the ITS definition of OPERABLE allows an OPERABLE component to have either a normal or emergency power source. This change to the CTS definition of OPERABLE is discussed in the Section 1.0 Discussion of Change. Given this change to the definition of OPERABLE, a specific allowance for the RHR loops is not required. This change is designated as editorial as it replaces a specific exception with an ITS generic change.

A.6 CTS Surveillance 4.4.1.3.1 states that the required RHR subsystems shall be demonstrated OPERABLE per Specification 4.7.9.2. ITS 3.4.8 does not contain this Surveillance.

This change is acceptable because the ITS does not contain a specification which is equivalent to Surveillance 4.7.9.2. The disposition of the requirements in Surveillance 4.7.9.2 will be addressed in DOCs for that specification. This change is designated as administrative as it eliminates a reference to a specification which does not exist in the ITS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.1.3, Action a, states that when less than the two required coolant loops are OPERABLE, immediate action must be taken to return the required loops to OPERABLE status as soon as possible and the unit must be in cold shutdown within 20 hours. CTS 3.4.1.3, Action b , states that when no coolant loops are in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required coolant loop to operation. ITS 3.4.8, Action A applies when one required RHR loop is inoperable and requires immediate action to restore the RHR loop to OPERABLE status. ITS 3.4.8, Action B, states that if no required RHR loops are OPERABLE or the required RHR loop is not in operation, all operations involving a reduction in RCS boron concentration must be suspended and action must be immediately initiated to restore one RHR loop to OPERABLE status and operation. This changes the CTS by revising the actions to be taken if both RHR loops are inoperable from immediate initiation of corrective action to return the required loops to OPERABLE status to take immediate action to suspend RCS boron concentration reductions and restore an RHR loop to OPERABLE status and operation.

This change is acceptable because it provides the same actions for a loss of all OPERABLE RHR loops as those provided for no RHR loop in operation. If both required RHR loops are inoperable, suspending all operations involving a reduction of

RCS boron concentration is appropriate because all forced flow used to ensure proper mixing of RCS boron is lost. This change is designated as more restrictive because it adds an additional action to the CTS.

M.2 CTS 3.4.1.3 contains an allowance for all reactor coolant pumps or RHR pumps to be de-energized for up to one hour. ITS 3.4.8 allows all RHR pumps to be not in operation for ≤ 15 minutes for switching from one loop to the other only and also requires that no draining operations to further reduce the RCS water volume are permitted.

This change is acceptable because the Note provides sufficient time to perform loop switching operations and provide adequate controls. The startup tests performed using the CTS Note allowance in MODE 4 or 5 with loops filled are not performed with the RCS loops not filled. Therefore, the 1 hour allowance for performing those tests are not needed in this condition. Stopping all operating RHR loops when the RCS is not filled should be limited to short periods of time because of the reduced inventory of water available to absorb decay heat. Stopping all RHR pumps during loop swapping operations is necessary to ensure that pump vortexing does not occur if both pumps are run simultaneously. Fifteen minutes is sufficient time to perform the loop swapping operation without excessive increases in RCS average temperature due to lack of decay heat removal. Adding the additional condition that no draining operations be performed when the pumps are stopped is reasonable given the low RCS water level and the unavailability of the RHR pumps to add inventory to the RCS if needed.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS)* CTS Surveillance 4.4.1.3.4 states that at least one Reactor Coolant pump or RHR loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. ITS SR 3.4.8.1 states that a required RHR loop shall be verified to be in operation every 12 hours. This changes the CTS by moving the requirement to verify that the RHR loop is circulating reactor coolant to the Bases. Other related changes are described in LA.2 and A.2.

The removal of this detail for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be in the Technical Specifications in order to provide adequate protection of the public health and safety. The ITS retains the requirement that a reactor coolant loop be in operation, and a loop that is in operation will be circulating reactor coolant. As described in the ITS Bases, verification that a reactor coolant loop is in operation includes flow rate, temperature, or pump status monitoring. 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 form the Technical Specifications.

LA.2 *(Type 3 - Removing Procedural Details for Meeting TS Requirements)* CTS Surveillance 4.4.1.3.4.b states that at least once per 12 hours it must be verified that one RHR loop is in operation. It goes on to provide minimum RHR flow rates dependent on RCS temperature or time since entry into MODE 3. ITS Surveillance 3.4.8.1 requires verification that one RHR loop is in operation every 12 hours. This changes the CTS by moving the RHR minimum flow requirements to the Technical Requirements Manual.

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 requires the operating coolant loop be OPERABLE. An OPERABLE RHR loop must be capable to performing its specified safety function. The function of an RHR loop is to remove decay heat. The specific flow rates needed to balance the decay heat removal requirements with the need to avoid RHR pump vortexing are a detail of testing. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. 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 1 – Relaxation of LCO Requirements)* ITS 3.4.8 contains a Note which allows one required RHR loop to be inoperable for up to 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation. This allowance does not exist in CTS 3.4.1.3.

This change is acceptable because the LCO requirements continue to ensure that the RCS is maintained consistent with the safety analyses and licensing basis. Absent the Note, surveillance testing could not be performed on an RHR loop with the RCS loops not filled. When the RCS loops are not filled, the steam generators cannot be used to remove decay heat. Surveillance testing is necessary to confirm OPERABILITY of the RHR loop. Without the Note, Action A would require immediate action to restore the RHR loop to OPERABLE status, eliminating the opportunity to perform the testing. Surveillance testing is necessary to confirm OPERABILITY of the RHR loop. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.2 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.4.1.3.2 states that the required pumps, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power availability. ITS SR 3.4.8.2 requires verification of correct breaker alignment and indicated power availability to the required pump that is not in operation every 7 days. It is modified by a Note which states, "Not required to be performed until 24 hours after a required pump is not in operation." This changes the CTS by not requiring the SR to be performed until 24 hours after a pump is taken out of operation.

The purpose of 4.4.1.3.2 is to ensure that the standby pump is ready to operate. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The Note provides time to perform the Surveillance to verify correct breaker alignment and indicated power availability. Without the Note, the Surveillance would not be met immediately after taking a pump out of operation. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.4.1.3, Note "*" states that all reactor coolant pumps and RHR pumps may be deenergized for up to 1 hour provided no operations are permitted that would cause dilution of the reactor coolant system boron concentration. CTS 3.4.1.2, Action b , states that when no coolant loop is in operation, all operations involving a reduction in boron concentration of the RCS must be suspended and action must be initiated to return the required loop to operation. ITS LCO 3.4.8 Note 1 states that all reactor coolant pumps and RHR pumps may be not in operation provided no operations are permitted that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1. ITS 3.4.8, Action B states that if no required loops are OPERABLE or the required RHR loop is not in operation, operations that would cause introduction into the RCS, coolant with boron concentration less than required to meet the SDM of LCO 3.1.1 must be suspended, and action must be immediately initiated to restore one loop to operable status and operation. This relaxes the CTS Required Actions by revising the action from suspending reductions in boron concentration to suspending introduction of coolant with a boron concentration less than required to meet LCO 3.1.1.

The purpose of the CTS3.4.1.3 LCO note and of Action b, is to ensure that "pockets" of coolant with boron concentration less than that required to maintain the SDM are not created when there is no forced flow through the reactor. 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 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 repair period. As long as coolant with boron concentration less than that required to meet the SDM requirement in LCO

3.1.1 is not introduced into the RCS, there is no possibility of creating "pockets" of coolant with less than the required boron concentration. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

UNIT 1

A.1

03-01-99

ITS

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

LCO 3.4.9

3.4.4 The pressurizer shall be OPERABLE with two groups of pressurizer heaters OPERABLE with the capacity of each group greater than or equal to 125 kW and capable of being powered from its associated emergency bus, and a water ~~volume~~ level of less than or equal to ~~1240 cubic feet~~ 93% A.2

Appl. APPLICABILITY: MODES 1, 2 and 3.

ACTION:

Action B+C

a. With one required group of pressurizer heaters inoperable, restore the required group of pressurizer heaters to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

Action A

b. With the pressurizer ~~otherwise inoperable~~ Water level not within limit be in at least HOT STANDBY with ~~the~~ ~~reactor trip breakers open~~ all rods fully inserted and the Rod Control System in a configuration incapable of rod withdrawal. within 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3 L.1

SURVEILLANCE REQUIREMENTS

SR 3.4.9.1

4.4.4.1 The pressurizer water ~~volume~~ level shall be determined to be within its limit at least once per 12 hours. A.2

SR 3.4.9.2

Verify capacity of each required group of pressurizer heaters is ≥ 125 Kw every 18 months. M.1

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UNIT 2

A.1

ITS 3.4.9

03-01-99

ITS

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

LCO 3.4.9 3.4.4 The pressurizer shall be OPERABLE with two groups of pressurizer heaters OPERABLE with the capacity of each group greater than or equal to 125 kW and capable of being powered from its associated emergency bus, and a water ~~volume~~ (level) of less than or equal to ~~1240 cubic feet~~ (93%). A.2

Appl. APPLICABILITY: MODES 1, 2 and 3.

ACTION:

Action B&C a. With one required group of pressurizer heaters inoperable, restore the required group of pressurizer heaters to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

Action A b. With the pressurizer ~~otherwise inoperable~~ (water level not within limit), be in at least HOT STANDBY with ~~the reactor trip breakers open~~ all rods fully inserted and the Rod Control System in a condition incapable of rod withdrawal. within 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3 L.1

SURVEILLANCE REQUIREMENTS

SR 3.4.9.1 4.4.4.1 The pressurizer water ~~volume~~ (level) shall be determined to be within its limit at least once per 12 hours. A.2

SR 3.4.9.2 Verify capacity of each required group of pressurizer heaters is ≥ 125 Kw every 18 months. M.1

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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 3.4.4 requires that pressurizer water volume be less than or equal to 1240 cubic feet and Surveillance 4.4.4.1 requires verification of the volume every 12 hours. ITS 3.4.9 will require that pressurizer level be ≤ 93% and SR 3.4.9.1 will require verification of the pressurizer level every 12 hours.

This change is acceptable because the CTS limit and the ITS limit are the same. The ITS presents the pressurizer limit in the scale displayed in the Control Room. Pressurizer volume is displayed as a percent of level on Control Room instrumentation. This change is designated as administrative as the units of the limit are changed but the value of the limit is not affected.

A.3 CTS 3.4.4, action b, applies when the pressurizer is inoperable for reasons other than inoperable group of pressurizer heaters. ITS 3.4.9, Condition A, applies when the pressurizer water level is not within limit. Changes to CTS 3.4.4, action a, to make it applicable to all causes of pressurizer heater inoperability are discussed in DOC L.1.

The purpose of CTS 3.4.4 is to require the pressurizer to be OPERABLE and two conditions of OPERABILITY are supplied. The conditions are pressurizer water level and pressurizer heater OPERABILITY. CTS 3.4.4, action b, applies when water level is not within limit. This is the same condition for which ITS 3.4.9, Condition A applies. The Actions in CTS 3.4.4, action b, and ITS 3.4.9, Action A are the same, except as described in DOC L.1. This change is acceptable because the remaining conditions under which the actions in CTS 3.4.4, action b, apply have not changed. This change is designated as administrative as it results in no technical change to the specifications.

MORE RESTRICTIVE CHANGES

M.1 ITS SR 3.4.9.2 requires verification that the capacity of the required groups of pressurizer heaters is ≥ 125 kW every 18 months. This requirement does not exist in the CTS.

This change is acceptable because it provides verification that the LCO is being met. ITS 3.4.9 and CTS 3.4.4 require that pressurizer heaters be OPERABLE, but the CTS

contains no Surveillance to verify this OPERABILITY. The 18 month Frequency is appropriate because the heaters are routinely used. This change is designated as more restrictive because it adds a new Surveillance.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.4.4, action b, requires that the plant be in HOT STANDBY with the reactor trip breakers open within 6 hours. ITS 3.4.9, Action A, also requires that the plant be in MODE 3 within 6 hours for this Condition, but requires that the rods be fully inserted and the Rod Control System be in a condition incapable of rod withdrawal. This changes the CTS by not specifically requiring that the RTBs be open.

The purpose of the CTS action is to ensure that the reactor is shutdown and that an inadvertent rod withdrawal could not occur while the pressurizer is filled above the LCO limit. 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 CTS prevents a potential overpressurization of the RCS in the event of an inadvertent rod withdrawal accident. The ITS action accomplishes the same goal by requiring that the rods be fully inserted and the Rod Control System be incapable of rod withdrawal. By not requiring that the reactor trip breakers be open, the ITS provides operational flexibility for the performance of required testing during the shutdown. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

UNIT 1

04-01-96

A.1

ITS

REACTOR COOLANT SYSTEM

SAFETY AND RELIEF VALVES – OPERATING

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.4.10

3.4.3.1 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2485 PSIG + 2% / - 3% average as-found with no single valve outside ± 3% and ± 1% per valve as-left.*

SR 3.4.10.1

<Moved to SR 3.4.10.1>

L.3

Appl.

APPLICABILITY: MODES 1, 2 and 3.

Insert Proposed Applicability Note

M.1

ACTION:

Action A
Action B

With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in HOT SHUTDOWN within 12 hours. 24

MODE 3 in 6 hours and

L.4

with any RCS cold leg temperature ≥ 235°F (unit 1), 270°F (unit 2)

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1

~~4.4.3.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.~~

M.2

Insert proposed SR 3.4.10.1

A.2

~~* The lift setting pressure shall correspond to ambient conditions of the valve at nominal temperature and pressure.~~

LA.1

A.1

04-01-96

ITS

REACTOR COOLANT SYSTEM

SAFETY VALVES – SHUTDOWN

LIMITING CONDITION FOR OPERATION three

M.3

LCO 3.4.10

SR 3.4.10.1

Appl.

3.4.2 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2485 PSIG ±3% as-found and ± 1% as-left. Moved to SR 3.4.10.1

L.1

APPLICABILITY: MODE 4. with all RCS cold leg temperatures > 235°F (Unit 1), 270°F (Unit 2)

L.2

ACTION:

Action A

Action B

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes and place an OPERABLE RHR loop into operation.

Insert proposed Condition A

Insert proposed Condition B

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1

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

A.2

Insert proposed SR 3.4.10.1

+2%/-3% average with no single valve outside ±3%

A.3

* The lift setting pressure shall correspond to ambient condition of the valve at nominal operating temperature and pressure.

LA.1

UNIT 2

ITS

A.1

04-01-96

REACTOR COOLANT SYSTEM

SAFETY AND RELIEF VALVES – OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.4.10

SR 3.4.10.1

3.4.3.1 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2485 PSIG + 2% / - 3% average as-found with no single valve outside ± 3%, and ± 1% per valve as-left.*

Moved to SR 3.4.10.1

L.3

Appl.

APPLICABILITY: MODES 1, 2 and 3.

Insert Proposed Applicability Note

M.1

ACTION:

Action A

Action B

With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in HOT SHUTDOWN within ~~12~~ 24 hours.

MODE 3 in 6 hours and

L.4

with any RCS cold leg temperature ≤ 235°F (Unit 1), 270°F (Unit 2)

M.2

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1

~~4.4.3.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.~~

A.2

Insert proposed SR 3.4.10.1

~~* The lift setting pressure shall correspond to ambient conditions of the valve at nominal temperature and pressure.~~

LA.1

Rev. 0

ITS

04-01-96

REACTOR COOLANT SYSTEM (A.1)

SAFETY VALVES – SHUTDOWN

LIMITING CONDITION FOR OPERATION (three) (M.3)

LCO 3.4.10

SR 3.4.10.1

3.4.2 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2485 PSIG ±3% as-found and ± 1% as-left.* (MOVED to SR 3.4.10.1)

Appl.

APPLICABILITY: MODE 4. (with all RCS cold leg temperatures > 235°F (Unit 1), 270°F (Unit 2)) (L.1)

ACTION:

Actions A + B

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes and place an OPERABLE RHR loop into operation.

Insert proposed Condition A

Insert proposed Condition B

(L.2)

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1

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

Insert proposed SR 3.4.10.1

(A.2)

, +2% / -3% average with no single valve outside ±3% (A.3)

* The lift setting pressure shall correspond to ambient condition of the valve at nominal operating temperature and pressure.

(LA.1)

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 Surveillances 4.4.3.1 and 4.4.2 state that there are no Surveillance Requirements on the pressurizer safety valves other than those required by Specification 4.0.5. Specification 4.0.5 describes the Inservice Test requirements. ITS SR 3.4.10.1 states that it must be verified that each pressurizer safety valve is OPERABLE in accordance with the Inservice Testing Program and, following testing, lift settings shall be within ± 1%.

This change is acceptable because the requirements have not changed. Both the CTS and the ITS state that the safety valves must be tested in accordance with the Inservice Testing Program. The ITS requirement that the as-left lift settings must be within ± 1% is moved from CTS LCO 3.4.3.1 and 3.4.2. This change is designated as administrative as the technical requirements are not changed.

A.3 CTS 3.4.2 requires a minimum of one pressurizer code safety valve to be OPERABLE with a lift setting of 2485 psig ±3% as-found. ITS 3.4.10 requires three pressurizer code safety valves to be OPERABLE with a lift setting of 2485 psig, +2% / -3% average with no single valve outside of ± 3%. The requirement for three safety valves to be OPERABLE in MODE 4 is described in DOC M.3.

This change is acceptable because it results in no technical change to the requirement. In both the CTS and the ITS, any single valve is required to have a lift setting within ± 3% of 2485 psig. The limitation on average lift setting is taken from CTS LCO 3.4.3.1 and only applies under the ITS requirement for all three safety valves to be OPERABLE. This change is designated as administrative as it is a non-technical change required for consistency with another change.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.3.1, Action, states that when one pressurizer safety valve is inoperable, it must be restored to OPERABLE status within 15 minutes or be in hot shutdown within 12 hours. ITS 3.4.10 states that when one pressurizer safety valve is inoperable, it must be restored to OPERABLE status within 15 minutes or be in

MODE 3 within 6 hours and in MODE 4 with any RCS cold leg temperature ≤ 235 °F (Unit 1), 270°F (Unit 2) within 12 hours. This changes the CTS by requiring the unit to be in MODE 3 in 6 hours. Other changes are discussed in DOC M.2.

The change is acceptable because requiring the unit to be in MODE 3 within 6 hours is a reasonable time, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems. This change is designated as more restrictive because is establishes an intermediate condition and time limit for a shutdown that was not in the CTS.

M.2 CTS 3.4.3.1, Action, states that when one pressurizer safety valve is inoperable, it must be restored to OPERABLE status within 15 minutes or be in hot shutdown within 12 hours. ITS 3.4.10 states that when one pressurizer safety valve is inoperable, it must be restored to OPERABLE status within 15 minutes or be in MODE 3 within 6 hours and in MODE 4 with any RCS cold leg temperature ≤ 235 °F (Unit 1), 270°F (Unit 2) within 12 hours. This changes the CTS by requiring the unit to be in MODE 4 with any RCS cold leg temperature ≤ 235 °F (Unit 1), 270°F (Unit 2) in 12 hours instead of being required to be in MODE 4. Other changes are discussed in DOC M.1.

This change is acceptable because below the LTOP arming temperature (235°F for Unit 1 and 270°F for Unit 2), the LTOP system, and not the pressurizer safety valves, are used for overpressure protection. Therefore, below the LTOP arming temperature, the pressurizer safety valves have no safety function. This change is designated as more restrictive because it requires the unit to be brought to a lower RCS temperature than does the CTS.

M.3 CTS 3.4.2 requires one pressurizer code safety valve to be OPERABLE in MODE 4. ITS 3.4.10 requires three pressurizer code safety valves to be OPERABLE in MODE 4 when all RCS cold leg temperatures > 235 °F (Unit 1), 270°F (Unit 2). This changes the CTS by requiring three safety valves to be OPERABLE in MODE 4.

The purpose of CTS Specifications 3.4.2 and 3.4.3.1 is to provide requirements on pressurizer safety valves in MODES 1, 2, 3, and 4. ITS 3.4.10 provides requirements on pressurizer safety valves in MODES 1, 2, 3, and 4. For simplicity, ITS 3.4.10 contains the same requirements on pressurizer safety valves in MODE 4 when all RCS cold leg temperatures are > 235 °F (Unit 1), 270°F (Unit 2) as in MODES 1, 2, and 3. This change is acceptable because requiring more safety valves to be OPERABLE in MODE 4 will ensure that a safety valve is available for pressure relief if needed. This change is designated as more restrictive as it requires additional equipment to be OPERABLE in MODE 4.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements)* CTS LCO 3.4.3.1 and LCO 3.4.2 are modified by a note that states that the pressurizer lift setting pressure shall correspond to ambient conditions of the valve at nominal temperature and pressure. The ITS does not contain this information and it is moved to the ITS Bases.

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 for the valves to be OPERABLE. Under the definition of OPERABILITY, the safety valves must be capable of lifting at the assumed conditions, which includes the ambient conditions of the safety valves themselves. 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

L.1 *(Category 2 - Relaxation of Applicability)* CTS 3.4.2 requires a safety valve to be OPERABLE in MODE 4. ITS 3.4.10 requires three safety valves to be OPERABLE in MODE 4 with all RCS cold leg temperatures > 235°F (Unit 1), 270°F (Unit 2). This changes the operating regime within MODE 4 in which pressurizer safety valves are required to be OPERABLE. The change in the number of required safety valves is discussed in DOC M.3.

This change is acceptable because the requirements continue to ensure that the systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Below the LTOP arming temperature of 235°F for Unit 1 and 270°F for Unit 2, the LTOP system provides overpressure protection. The LTOP system provides pressure relief at a lower pressure than the pressurizer safety valves and, therefore, the pressurizer safety valves are not needed. This change is designated as less restrictive because it eliminates an operating regime in which the pressurizer safety valves were required to be OPERABLE.

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.4.2 Action states that with no pressurizer safety valve OPERABLE in MODE 4, immediately suspend positive reactivity changes and place an OPERABLE RHR loop into operation. ITS 3.4.10 states that with one pressurizer safety valve inoperable in MODE 4 with all RCS cold leg temperature > 235 °F (Unit 1), 270°F (Unit 2), restore the valve to OPERABLE status within 15 minutes. If in MODE 4 the valve is not restored within that time, or if two or more pressurizer safety valves are inoperable, be in MODE 4 with any RCS cold leg temperature ≤ 235°F (Unit 1), 270°F (Unit 2) within 12 hours. This changes the CTS actions to be taken in MODE 4 when one or more pressurizer safety valves are inoperable.

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. This change provides adequate actions to be taken when one or more pressurizer safety valves are inoperable in MODE 4 above the LTOP arming temperature of 235°F (Unit 1), 270°F (Unit 2). CTS 3.4.3.1, which provides requirements on pressurizer safety valves in MODES 1, 2, and 3, allows 15 minutes to restore an inoperable safety valve. As RCS pressure is lower and the likelihood of an overpressure event is less in MODE 4, also allowing 15 minutes to restore an inoperable safety valve in MODE 4 is reasonable. Requiring a cooldown to below the LTOP arming temperature if the pressurizer safety valve cannot be repaired within 15 minutes or if two or more safety valves are inoperable is a prudent course of action as overpressure protection below the LTOP arming temperature does not rely on the pressurizer safety valves. Therefore, these actions, which are the same actions applied in MODES 1, 2, and 3, are also appropriate for MODE 4. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 2 – Relaxation of Applicability)* CTS LCOs 3.4.3.1 and 3.4.2 provide requirements on the pressurizer code safety valves in MODES 1, 2, 3, and 4. The ITS LCO 3.4.10 Applicability is modified by a Note which allows the lift settings to not be within the LCO limits during MODES 3 and 4 for the purpose of setting the pressurizer safety valves under ambient (hot) conditions. The exception is allowed for 54 hours following entry into MODE 3 provided a preliminary cold setting was made prior to heatup. This changes the CTS by allowing entry into MODES 3 and 4 without verifying that the pressurizer code safety valve lift settings are within the LCO limits.

The purpose of the Applicability Note is to allow entry into MODES 3 and 4 to perform testing and examination of the safety valves at high pressure and temperature

near their normal operating range, but only after the valves have had a preliminary cold setting. This change is acceptable because the requirements continue to ensure that the components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The cold lift settings give assurance that the valves are OPERABLE near their design condition during the short period of time allowed to verify the settings at the hot condition. While North Anna does not set pressurizer safety valves using this method at this time, this Applicability Note provides the flexibility to utilize this method in the future. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

L.4 *(Category 3 – Relaxation of Completion Time)* CTS 3.4.3.1 states that with one pressurizer code safety valve inoperable, be in HOT SHUTDOWN within 12 hours. ITS 3.4.10 states that with one pressurizer safety valve inoperable, be in MODE 4 with any RCS cold leg temperature ≤ 235 °F (Unit 1), 270 °F (Unit 2) within 24 hours. The change in the end condition is discussed in DOC M.2. This changes the CTS by allowing 24 hours vice 12 hours to reach the end condition.

The purpose of CTS 3.4.3.1 is to place the plant in a condition in which the pressurizer safety valves are not needed if one safety valve is inoperable and cannot be restored to OPERABILITY within the specified Completion Time. 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. Because the LTOP entry conditions, 235 °F (Unit 1), 270 °F (Unit 2), are below the 350 °F entry conditions for entry into MODE 4, addition time is provided beyond the 12 hours given to enter MODE 4 in CTS 3.0.3 and ITS LCO 3.0.3. This allows the reduction in MODE to be performed in a controlled manner. 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.

UNIT 1

ITS 3.4.11

A.1

03-02-99

REACTOR COOLANT SYSTEM

SAFETY AND RELIEF VALVES – OPERATING

RELIEF VALVES

ITS

LIMITING CONDITION FOR OPERATION

LCO 3.4.11

3.4.3.2 Both power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

App.

APPLICABILITY: MODES 1, 2, and 3.

Insert proposed Action Note 1 A.2

ACTION:

A. PORV(s):

and capable of being manually cycled A.3

Action B, E

1. With one or both PORV(s) inoperable ~~solely because of excessive seat leakage~~ within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

Action A, E

and capable of being manually cycled

2. **(Risk Informed)** With one or both PORV(s) inoperable because of (an) inoperable backup nitrogen supply(ies), within 14 days either restore the PORV(s) backup nitrogen supply(ies) to OPERABLE status or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

3. ~~With one or both PORV(s) inoperable due to a malfunction in the PORV automatic control system, within 1 hour restore the affected automatic control system(s) to OPERABLE status or place and maintain the affected PORV(s) in manual control.~~ L.3

Action C, E

4. With one PORV inoperable ~~due to causes other than those addressed in ACTIONS A.1, A.2 or A.3 above~~, within 1 hour either restore the PORV to OPERABLE status or close its associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

and not capable of being manually cycled

Action F

5. With both PORVs inoperable ~~such that ACTIONS A.1, A.2 or A.3 above do not apply~~, within 1 hour either restore at least one PORV to OPERABLE status or close the associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

Action Note 2

6. The provisions of Specification 3.0.4 are not applicable. Move to Note 2 for Actions

ITS 3.4.11

A.1

03-02-99

REACTOR COOLANT SYSTEM

SAFETY AND RELIEF VALVES – OPERATING

ITS

RELIEF VALVES

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

B. Block Valves: Insert proposed Action D Note (L.2)

Action D, E

1. With one block valve inoperable, within 1 hour either restore the block valve to OPERABLE status or place its associated PORV in manual control; restore the block valve to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. Insert proposed Action G Note (L.2)

Action G

2. With both block valves inoperable, ~~within 1 hour either restore the block valves to OPERABLE status or place the PORVs in manual control; restore at least one block valve to OPERABLE status within the next hour; restore the remaining inoperable block valve to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.~~ (A.4) (2) (A.4)

Action Note 2

3. The provisions of Specification 3.0.4 are not applicable. Move to Note 2 for Actions

SURVEILLANCE REQUIREMENTS

4.4.3.2.1 ~~In addition to the requirements of Specification 4.0.5,~~ each PORV shall be demonstrated OPERABLE: (A.1)

a. At least once per 31 days by performing a CHANNEL FUNCTIONAL TEST, excluding valve operation, and See ITS 3.3.1

b. At least once per 18 months by:

SR 3.4.11.3

1. Operating the PORV through one complete cycle of full travel ~~during MODES 3 or 4 and~~ (LA.1)

SR 3.4.11.4

2. Operating the solenoid air control valves and check valves on the associated accumulators in the PORV control systems through one complete cycle of full travel, and

3. Performing a CHANNEL CALIBRATION of the actuation instrumentation. See ITS 3.3.1

SR 3.4.11.1

c. At least once per 7 days by verifying that the pressure in the PORV nitrogen accumulators is greater than the surveillance limit.

SR 3.4.11.2

4.4.3.2.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION A.4 or A.5 in Specification 3.4.3.2. This Surveillance is only required to be met in MODES 1 and 2 (L.1)

UNIT 2

A.1

ITS 3.4.11

03-02-99

REACTOR COOLANT SYSTEM

SAFETY AND RELIEF VALVES – OPERATING

RELIEF VALVES

ITS **LIMITING CONDITION FOR OPERATION**

LCO 3.4.11 3.4.3.2 Both power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

Appl. APPLICABILITY: MODES 1, 2, and 3. Insert proposed Action Note 1 A.2

ACTION:

A. PORV(s):

Action B, E 1. With one or both PORV(s) inoperable ~~solely because of excessive seat leakage~~ and capable of being manually cycled, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

Action A, E 2. **(Risk Informed)** With one or both PORV(s) inoperable because of (an) inoperable backup nitrogen supply(ies) and capable of being manually cycled, within 14 days either restore the PORV(s) backup nitrogen supply(ies) to OPERABLE status or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

3. ~~With one or both PORV(s) inoperable due to a malfunction in the PORV automatic control system, within 1 hour restore the affected automatic control system(s) to OPERABLE status or place and maintain the affected PORV(s) in manual control.~~ L.3

Action C, E 4. With one PORV inoperable ~~due to causes other than those addressed in ACTIONS A.1, A.2 or A.3 above~~ and not capable of being manually cycled, within 1 hour either restore the PORV to OPERABLE status or close its associated block valve and remove power from the block valve; restore the PORV to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

Action F 5. With both PORVs inoperable ~~such that ACTIONS A.1, A.2 or A.3 above do not apply,~~ within 1 hour either restore at least one PORV to OPERABLE status or close the associated block valves and remove power from the block valves and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

Action Note 2 6. The provisions of Specification 3.0.4 are not applicable. Move to Note 2 for Actions

A.1

ITS 3.4.11

03-02-99

REACTOR COOLANT SYSTEM

SAFETY AND RELIEF VALVES – OPERATING

RELIEF VALVES

ITS

LIMITING CONDITION FOR OPERATION

ACTION:(Continued) Insert proposed Action O Note L.2

B. Block Valves:

Action O, E

1. With one block valve inoperable, within 1 hour either restore the block valve to OPERABLE status or place its associated PORV in manual control; restore the block valve to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. L.2

Insert proposed Action G Note

Action G, H

2. With both block valves inoperable, within 1 hour either restore the block valves to OPERABLE status or place the PORVs in manual control; restore at least one block valve to OPERABLE status within the next hour, restore the remaining inoperable block valve to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.4 A.4

2 hours

Action Note 2

3. The provisions of Specification 3.0.4 are not applicable. Move to Note 2 for Actions

SURVEILLANCE REQUIREMENTS

4.4.3.2.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE: A.1

a. At least once per 31 days by performing a CHANNEL FUNCTIONAL TEST, excluding valve operation, and See ITS 3.3.1

SR 3.4.11.3

b. At least once per 18 months by:

1. Operating the PORV through one complete cycle of full travel during MODES 3 or 4, and L.4.1

SR 3.4.11.4

2. Operating the solenoid air control valves and check valves on the associated accumulators in the PORV control systems through one complete cycle of full travel, and

3. Performing a CHANNEL CALIBRATION of the actuation instrumentation. See ITS 3.3.1

SR 3.4.11.1

c. At least once per 7 days be verifying that the pressure in the PORV nitrogen accumulators is greater than the surveillance limit.

SR 3.4.11.2

4.4.3.2.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION A.4 or A.5 in Specification 3.4.3.2.

This Surveillance is only required to be met in MODES 1 and 2. L.1

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 3.4.3.2 describes the Actions to be taken when a PORV or block valve is inoperable. ITS 3.4.11 also describes Actions to be taken when a PORV or block valve is inoperable and contains a statement that separate condition entry is allowed for each PORV and each block valve.

This change is acceptable because the CTS is interpreted as Action A may be entered for each valve separately. It does not result in a technical change to the Technical Specifications. This change is designated as administrative as it is a change required by the ITS usage rules that does not result in a technical change to the specifications.

A.3 CTS 3.4.3.2, Action A.1, applies with one or both PORV(s) inoperable solely because of excessive seat leakage. CTS 3.4.3.2, Action A.2, applies with one or both PORV(s) inoperable because of an inoperable backup nitrogen supply. CTS 3.4.3.2, Action A.4, applies with one PORV inoperable due to causes other than those addressed in Actions A.1, A.2, or A.3. CTS 3.4.3.2, Action A.5, applies with both PORVs inoperable such that Actions A.1, A.2, or A.3 above do not apply. ITS 3.4.11 ACTIONS divide the conditions of PORV inoperability into those in which the PORV is capable of being manually cycled and those which do not. ITS 3.4.11, Action A applies with one or more PORVs inoperable due to inoperable backup nitrogen supply and capable of being manually cycles. ITS 3.4.11, Action B, applies with one or more PORV inoperable for reasons other than Condition A and capable of being manually cycled. ITS 3.4.11, Action C, applies with one PORV inoperable and not capable of being manually cycled. ITS Action F applies with two PORVs inoperable and not capable of being manually cycled. This changes the CTS by dividing the existing conditions into those in which the PORV can, and cannot, be manually cycled.

This change is acceptable because the requirements have not changed. A PORV inoperable due to excessive seat leakage can still be manually cycled. A PORV inoperable due to an inoperable backup nitrogen supply can still be manually cycled. PORVs inoperable for other reasons cannot be manually cycled. Therefore, the conditions under which the Required Actions are applied have not changed. This change is designated as administrative because it does not result in a technical change to the specifications.

A.4 CTS 3.4.3.2, Action B.1, states that with one block valve inoperable, within 1 hour either restore the block valves to OPERABLE status or place the PORVs in manual control; restore the block valve to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. CTS 3.4.3.2, Action B.2, states that with both block valves inoperable, within 1 hour either restore the block valves to OPERABLE status or place the PORVs in manual control; restore at least one block valve to OPERABLE status within the next hour, and restore the remaining inoperable block valve to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. ITS 3.4.11, Action D, states that with one block valve inoperable, place the associated PORV in manual control and restore the block valve to OPERABLE status within 72 hours. ITS 3.4.11, Action G, states that with two block valves inoperable, restore one block valve to OPERABLE status within 2 hours. This changes the CTS by eliminating the actions for one block valve inoperable in the Condition for two block valves inoperable.

This change is acceptable because the requirements have not changed. Under the rules of the ITS, all applicable Conditions are entered. Therefore, with two block valves inoperable, the Conditions and Required Actions for one block valve inoperable must also be followed. As a result, it is not necessary to repeat those Required Actions in the Condition for two block valves inoperable. This change is designated as administrative as it is a change required by the ITS usage rules that does not result in a technical change to the specifications.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements)* CTS 4.4.3.2.1.b.1 states that at least once per 18 months each PORV must be operated through one complete cycle of full travel during MODES 3 and 4. ITS SR 3.4.11.3 states that a complete cycle of each PORV must be made at a Frequency of 18 months. This changes the CTS by relocating the requirement to perform the testing in MODES 3 and 4 to the Bases.

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 that the PORV be OPERABLE. The MODE in which the test is performed is a detail of testing not required to be in the Technical Specifications in order to ensure PORV OPERABILITY. The MODE in which the test should be performed is relocated to the Bases and information in the Bases explains why the testing should be performed in those MODES. 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

L.1 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.4.3.2.2 requires testing of each block valve every 92 days. CTS 4.4.3.2.1.b.1 requires operating a PORV through one complete cycle of full travel at least once per 18 months. ITS SR 3.4.11.2 and 3.4.11.3 modify these CTS Surveillances with a Note which states, "Only required to be performed in MODES 1 and 2." This changes the CTS by allowing entry into MODE 3 prior to performing the Surveillance.

The purpose of CTS4.4.3.2.2 and 4.4.3.2.1.b.1 is to ensure that the PORV and block valve are OPERABLE. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The Surveillance Note allows entry into MODE 3 so that the valves may be tested at operating pressure and temperature. This will ensure the testing provides an accurate indication of valve OPERABILITY. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.4.3.2, Action d, applies when one or both block valves are inoperable. ITS 3.4.11, Action D and G, apply when one or both block valves, respectively, are inoperable. ITS 3.4.11, Actions D and G, are modified by a Note which states that the Required Actions are not applicable when the block valve is inoperable solely as a result of complying with Required Actions C.2 and F.2. ITS Required Actions C.2 and F.2 require power to be removed from the block valve and apply when the associated PORV is inoperable. This changes the CTS by eliminating the requirement to declare the block valve inoperable when power is removed because the associated PORV is inoperable.

The purpose of CTS 3.4.3.2, Action d, is to provide remedial measures that must be taken when one or both block valves are inoperable. 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 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 repair period. Should a block valve be declared inoperable as a result of power being removed from the valve because the associated PORV is inoperable, the appropriate remedial actions to be taken are those for the inoperable PORV, not those for an inoperable block valve. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.4.3.2, Action A.3, states, "With one or both PORV(s) inoperable due to a malfunction in the PORV automatic control system, within 1 hour restore the affected automatic control system(s) to OPERABLE status or place and maintain the affected PORV(s) in manual control. states . . . . ITS 3.4.11 does not require the PORV automatic control system for OPERABILITY. This changes the CTS by eliminating the LCO requirement for the PORV automatic control system.

The purpose of CTS 3.4.3.2 is to ensure the PORVs are available to perform their accident mitigation function. 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. In the applicable MODES for ITS 3.4.11, the PORVs are only credited for manual operator action in the event of a steam generator tube rupture. The PORV automatic control system is not needed to perform this function and, therefore, is not required for PORV OPERABILITY. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

UNIT 1

A.1

M.4

10-05-94

Add proposed LCO Note

ITS

REACTOR COOLANT SYSTEM

LOW-TEMPERATURE OVERPRESSURE PROTECTION

LIMITING CONDITION FOR OPERATION

LCO 3.4.12

3.4.9.3 Two power-operated relief valves (PORVs) shall be OPERABLE with lift settings of (1) less than or equal to 500 psig whenever any RCS cold leg temperature is less than or equal to 235°F, and (2) less than or equal to 395 psig whenever any RCS cold leg temperature is less than 150°F. and the accumulators isolated with power removed from the isolation valve operator.

M.4

Applicability

LCO 3.4.12.b

APPLICABILITY: MODE 4 when the temperature of any RCS cold leg is less than or equal to 235°F, MODE 5, and MODE 6 when the head is on the reactor vessel and the RCS is not vented through a 2.07 square inch or larger vent.

ACTION:

Action E

a. With one PORV inoperable in MODE 4, restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through at least a 2.07 square inch vent within the next 8 hours.

Action G

Action F

b. With one PORV inoperable in MODES 5 or 6, either (1) restore the inoperable PORV to OPERABLE status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 2.07 square inch vent within a total of 32 hours.

Action G

c. With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 2.07 square inch vent within ~~8~~ 12 hours.

L.1

SR 3.4.12.4

d. With the RCS vented per ACTIONS a, b, or c, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, ~~sealed, or otherwise secured in the open position~~; otherwise, verify the vent pathway ever 12 hours.

LA.1

e. ~~In the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.~~

L.2

~~f. The provisions of Specification 3.0.4 are not applicable.~~

M.1

Action A

Add proposed Action A

Action B

Add proposed Action B

M.2

Action C

Add proposed Action C

Action D

Add proposed Action D

M.4

Rev. 0

ITS 3.4.12

A.1

03-02-99

ITS

REACTOR COOLANT SYSTEM

LOW-TEMPERATURE OVERPRESSURE PROTECTION

SURVEILLANCE REQUIREMENTS

4.4.9.3 Each PORV shall be demonstrated OPERABLE by: Add proposed SR 3.4.12.7 Note M.1

SR 3.4.12.7

a. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE.

SR 3.4.12.8

b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel, at least once per 18 months.

SR 3.4.12.5 3.4.12.4

c. Verifying the PORV keyswitch is in the Auto position and the PORV isolation valve is open at least once per 72 hours when the PORV is being used for overpressure protection.

SR 3.4.12.6

d. At least once per 7 days by verifying that the pressure in the PORV nitrogen accumulators is greater than the surveillance limit.

e. ~~Testing pursuant to Specification 4.0.5.~~ A.2

Add proposed SR 3.4.12.3 M.4

SR 3.4.12.3

ITS 3.4.12

A.1

07-24-96

ITS

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS – Tavg LESS THAN 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE charging pump#,

b. One OPERABLE low head safety injection pump#, and

c. An OPERABLE flow path capable of automatically transferring fluid to the reactor coolant system when taking suction from the refueling water storage tank or from the containment sump when the suction is transferred during the recirculation phase of operation or from the discharge of the outside recirculation spray pump.

APPLICABILITY: MODE 4.

(See ITS 3.5.3)

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of either the charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. With no ECCS subsystem OPERABLE because of the inoperability of the low head safety injection pump, restore at least one ECCS subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods.

c. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

LCO 3.4.12 Appl 3.4.12 LCO Note

A maximum of one charging pump and one low head safety injection pump shall be OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 235°F except two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switching operations.

(Moved to ITS 3.4.12 Note)

for ± 1 hour

M.3

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Rev. 0

A.1

07-24-96

ITS

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

See ITS 3.5.3

SR 3.4.12.1
SR 3.4.12.2

4.5.3.2 At least once per 12 hours, verify that a maximum of one charging pump and one low head safety injection pump is OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 235°F.*

LCO Note

* Two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switching operations. for ≤ 1 hour

UNIT 2

A.1

10-05-94

ITS

REACTOR COOLANT SYSTEM

LOW-TEMPERATURE OVERPRESSURE PROTECTION

LIMITING CONDITION FOR OPERATION

M.4 Add proposed LCO Note

LCO 3.4.12

3.4.9.3 Two power-operated relief valves (PORVs) shall be OPERABLE with lift settings of (1) less than or equal to 415 psig whenever any RCS cold leg temperature is less than or equal to 270°F, and (2) less than or equal to 375 psig whenever any RCS cold leg temperature is less than 130°F. and the accumulators isolated with power removed from the isolation valve operator. M.4

Applicability LCO 3.4.12.b

APPLICABILITY: MODE 4 when the temperature of any RCS cold leg is less than or equal to 270°F, MODE 5, and MODE 6 when the head is on the reactor vessel and the RCS is not vented through a 2.07 square inch or larger vent.

ACTION:

Action E Action G

a. With one PORV inoperable in MODE 4, restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through at least a 2.07 square inch vent within the next 8 hours.

Action F Action G

b. With one PORV inoperable in MODES 5 or 6, either (1) restore the inoperable PORV to OPERABLE status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 2.07 square inch vent within a total of 32 hours.

Action G

c. With both PORVs inoperable, complete depressurization and venting of the RCS through at least a 2.07 square inch vent within ~~8~~ 12 hours. L.1

SR 3.4.12.4

d. With the RCS vented per ACTIONS a, b, or c, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, ~~sealed, or otherwise secured in the open position~~, otherwise, verify the vent pathway ever 12 hours. LA.1

~~e. In the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or vent(s) on the transient, and any corrective action necessary to prevent recurrence.~~ L.2

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

Action A — Add proposed Action A

Action B — Add proposed Action B

M.2

Action C — Add proposed Action C

Action D — Add proposed Action D

M.4

Rev. 0

A.1

03-02-99

ITS

REACTOR COOLANT SYSTEM

LOW-TEMPERATURE OVERPRESSURE PROTECTION

SURVEILLANCE REQUIREMENTS

4.4.9.3 Each PORV shall be demonstrated OPERABLE by: Add proposed SR 3.4.12.7 Note M.1

SR 3.4.12.7 a. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE.

SR 3.4.12.8 b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel, at least once per 18 months.

SR 3.4.12.5 SR 3.4.12.4 c. Verifying the PORV keyswitch is in the AUTO position and the PORV isolation valve is open at least once per 72 hours when the PORV is being used for overpressure protection.

SR 3.4.12.6 d. At least once per 7 days by verifying that the pressure in the PORV nitrogen accumulators is greater than the surveillance limit.

A.2

e. Testing pursuant to Specification 4.0.5

M.4

SR 3.4.12.3 Add proposed SR 3.4.12.3

ITS 3.4.12

(A.1)

07-24-96

EMERGENCY CORE COOLING SYSTEMS

ITS

ECCS SUBSYSTEMS – Tavg LESS THAN 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE charging pump#,

b. One OPERABLE low head safety injection pump#, and

c. An OPERABLE flow path capable of automatically transferring fluid to the reactor coolant system when taking suction from the refueling water storage tank or from the containment sump when the suction is transferred during the recirculation phase of operation.

APPLICABILITY: MODE 4.

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of either the charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. With no ECCS subsystem OPERABLE because of the inoperability of the low head safety injection pump, restore at least one ECCS subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods.

c. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

(See ITS 3.5.3)

LCO 3.4.12 Appl 3.4.12 LCO Note

A maximum of one charging pump and one low head safety injection pump shall be OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 270°F except two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switching operations.

(Moved to ITS 3.4.12 Note)

for ≤ 1 hour

(M.3)

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ITS

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

See ITS 3.5.3

SR 3.4.12.1 4.5.3.2 At least once per 12 hours, verify that a maximum of one charging pump and one low

SR 3.4.12.2 head safety injection pump is OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 270°F.*

LCO Note

* Two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switching operations.

for ≤ 1 hour

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 4.4.9.3.d states that each PORV shall be demonstrated OPERABLE by testing pursuant to Specification 4.0.5. ITS 3.4.12 does not contain a similar requirement.

This change is acceptable because Specification 4.0.5 applies whether or not it is specifically invoked in a particular specification. A requirement to follow Specification 4.0.5 in CTS 4.4.9.3.d is repetitious and adds no requirements. Therefore, it is deleted. Changes to Specification 4.0.3 are discussed in the ITS Section 3.0 DOCs.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.9.3, Action f, states that the provisions of Specification 3.0.4 are not applicable. ITS 3.4.12 does not contain an equivalent Action, but SR 3.4.12.7 states that a COT must be performed on each required PORV, excluding actuation, and the SR is modified by a Note that states that the test is not required to be met until 12 hours after decreasing RCS cold leg temperature to ≤ 235°F (Unit 1), 270°F (Unit 2).

The purpose of the CTS 3.0.4 exception is to allow testing of the PORV LTOP actuation circuitry, which cannot be performed until the PORVs can be placed in the LTOP protection MODE. The CTS 3.0.4 exception allows entry into the LTOP region prior to performing the test. The ITS uses a specific exception for the test which must be performed in the LTOP region. This change is acceptable because it continues to allow the necessary PORV actuation logic testing to be performed. This change is designated as more restrictive because is replaces a broad 3.0.4 exception which applies to the entire LTOP specification with a specific exception applied to a single test and it places a limit on the length of time that the exception can be used.

M.2 CTS 3.5.3, LCO Note #, states that a maximum of one charging pump and one low head safety injection pump shall be OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 235°F (Unit 1), 270°F (Unit 2). The only exception to this requirement is two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switch operation. There are no CTS Actions to be taken if these

requirements are not met, so 3.0.3 would be entered. ITS LCO 3.4.12 contains the same requirements on the pumps, and Actions 3.4.12.A and 3.4.12.B state that if two LHSI pumps or two or more charging pumps, respectively, are capable of injection into the RCS, action must be initiated immediately to limit to a maximum of one LHSI pump and charging pump capable of injecting into the RCS.

This change is acceptable because it provides appropriate actions to be taken if the LTOP system design assumptions are not met. With more than one LHSI and one charging pump capable of injecting into the RCS, the LTOP system may not be able to prevent overpressurization, and brittle fracture of the RCS may occur, should more than two pumps inadvertently start. Immediate action to correct the situation is necessary. This change is designated as more restrictive as it replaces a 3.0.3 entry with a requirement for immediate action.

M.3 CTS 3.5.3, LCO Note #, states that a maximum of one charging pump and one low head safety injection pump shall be OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 235°F (Unit 1), 270°F (Unit 2). The only exception to this requirement is two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switch operation. CTS SR 4.5.3.4 states that every 12 hours it must be verified that a maximum of one charging pump and one low head safety injection pump is OPERABLE and capable of injecting into the RCS whenever the temperature of one or more of the RCS cold legs is less than or equal to 235°F (Unit 1), 270°F (Unit 2). It is modified by a footnote that states that two charging pumps may be OPERABLE and capable of injecting into the RCS during pump switching operations. ITS LCO 3.4.12 states that a maximum of one charging pump and one LHSI pump may be capable of injecting into the RCS. ITS 3.4.12, LCO Note states that two charging pumps may be capable of injecting into the RCS during pump swap operation for ≤ 1 hour. This changes the CTS by limiting the amount of time that two charging pumps may be capable of injecting into the RCS for pump swap operations to ≤ 1 hour.

This change is acceptable because it is necessary to limit the length of time during which the design assumptions of the LTOP system are not met. One hour is sufficient time to ready and align a second charging pump and to disable the charging pump being replaced while limiting the length of time that the plant would be exposed to a condition outside of the design basis of the LTOP system. This change is designated as more restrictive because it limits the length of time the plant may be in a condition which does not have a time limit in the CTS.

M.4 The CTS LTOP specifications provide no limitations on the accumulators. ITS LCO 3.4.12 states that the LTOP system shall be OPERABLE and the accumulators shall be isolated with power removed from the accumulator isolation valve operators. The ITS LCO contains a Note which states, "Accumulator isolation is only required when

accumulator pressure is greater than the PORV lift setting." ITS 3.4.12, Action C, states that if an accumulator is not isolated or power is available to an accumulator isolation valve operator when the accumulator pressure is greater than the PORV lift setting, the affected accumulator must be isolated immediately and power must be removed from the isolation valve operator within 1 hour. If this isolation is not accomplished, ITS 3.4.12, action D, states that the RCS cold leg temperature must be increased to above the LTOP arming temperature (235°F (Unit 1), 270°F (Unit 2)) or the affected accumulator must be depressurized to less than the PORV lift setting. Twelve hours is allowed for these actions. ITS SR 3.4.12.3 requires verification that each accumulator is isolated with power removed from the isolation valve operator every 12 hours.

These changes are acceptable because the LTOP analyses assume that the accumulators are isolated are not capable of initiating a mass addition transient. The Completion Times are reasonable for the Actions to be performed and minimize the time in which the design assumptions for the LTOP system are not being met. The Surveillance Frequency of 12 hours is the same as the Frequency of SR 3.5.1.1, which verifies that the accumulator isolation valves are open when the accumulators are required to be OPERABLE to perform ECCS functions. This change is designated as more restrictive because it adds additional requirements to the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 2 – Removing Descriptions of System Operation)* CTS 3.4.9.3, Action d, states that when the RCS is vented, the vent pathway must be verified at least once per 31 days when the pathway is provided by a valve(s) that is locked, sealed, or otherwise secured in the open position; otherwise, the vent pathway must be verified every 12 hours. ITS SR 3.4.12.4 states that an RCS vent must be verified open every 12 hours for unlocked open vent valve(s) and every 31 days for other vent paths. This changes the CTS by moving the detail that a vent valve may be considered locked open if it is sealed or otherwise secured in position to the Bases.

The removal of these details, which are related to system operation, 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 that the vent valve be positively blocked open. Locking open a vent valve and sealing or otherwise securing open a vent valve are equivalent in terms of fulfilling the safety function of the vent valve. 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 operation is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L.1 *(Category 3 – Relaxation of Completion Time)* CTS 3.4.9.3, Action c, allows 8 hours to depressurize the RCS and establish an RCS vent when both PORVs are inoperable. ITS 3.4.12, Action G, allows to depressurize the RCS and establish an RCS vent when both PORVs are inoperable. This changes the CTS by allowing 12 hours vice 8 hours to depressurize and vent the RCS when both PORVs are inoperable.

The purpose of CTS 3.4.9.3 is to place the plant in a condition in which the PORVs are not needed if both PORVs are inoperable and cannot be restored to OPERABILITY within the specified Completion Time. 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. Twelve hours is an appropriate amount of time to allow to cool and depressurize the RCS (following the plant cooldown rate limits), change MODES, and plant and execute the maintenance activity of opening an RCS vent. This change allows the necessary activities to be performed in a controlled manner. This change is designated as less restrictive because additional time is allowed to complete Required Actions than was allowed in the CTS.

L.2 *(Category 8 – Deletion of Reporting Requirements)* CTS 3.4.9.3.e states that in the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 5.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence. The ITS does not have a similar requirement. This changes the CTS by eliminating a Special Report.

The purpose of CTS 3.4.9.3, Action e, is to inform the NRC of challenges to the RCS pressure relief capabilities. This change is acceptable because the regulations provide adequate reporting requirements, or the reports do not affect continued plant operation. The reporting requirements in 10 CFR 50 are adequate to inform the NRC of challenges to the PORVs or RCS vents. Neither the safety analysis assumptions or conditions for continued operation are dependent on the NRC review of the provided information. This change is designated as less restrictive because reports that would be submitted under the CTS will not be required under the ITS.

UNIT 1

A.1

12-12-88

ITS

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

LCO 3.4.13.a

LCO 3.4.13.b

LCO 3.4.13.d

LCO 3.4.13.e

LCO 3.4.13.c

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators ~~not isolated from the Reactor Coolant System~~ and 500 gallons per day through any one steam generator ~~not isolated from the Reactor Coolant System*~~ A.2 A.3

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

e. 30 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig, and (See ITS 3.5.5)

f. Leakage for the Reactor Coolant System Pressure Isolation Valves specified in Table 3.4-1. (See ITS 3.4.14)

Applicability

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Condition B

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

Condition A

Condition B

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from the Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (See ITS 3.4.14)

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (See ITS 3.4.14)

~~*When in Mode 1 above 50% power, provisions of Specification 3.4.6.3 apply.~~ A.3

A.1

ITS

4-20-81

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by: 22

L.1

Insert proposed SR 3.4.13.1 Note

a. ~~Monitoring the containment atmosphere particulate radioactivity monitoring at least once per 12 hours.~~ L.2

b. ~~Monitoring the containment sump inventory and discharge at least once per 12 hours.~~

c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is 2235 ± 20 psig at least once per 31 days with the modulating valve fully open. (See ITS 3.5.5)

SR 3.4.13.1

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and

e. ~~Monitoring the reactor head flange leakoff temperature at least once per 24 hours.~~ L.2

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4.1 shall be individually demonstrated OPERABLE by verifying leakage* to be within its limit:

a. Prior to entering MODE 2 after each refueling,

b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months, and 22

c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.

(See ITS 3.4.14)

*To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria. 22

ITS 3.4.13

(A.1)

4-20-81

TABLE 3.4.1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

System	Valve No.	Maximum (a)(b) Allowable Leakage
Low Head Safety Injection to Cold Legs		
Loop 1	1-SI-83	≤ 5 gpm
	1-SI-195	≤ 5 gpm
Loop 2	1-SI-86	≤ 5 gpm
	1-SI-197	≤ 5 gpm
Loop 3	1-SI-89	≤ 5 gpm
	1-SI-199	≤ 5 gpm

22

Footnotes:

(a) 1. Leakage rates less than or equal to 1.0 gpm are considered acceptable.

2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

3. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

4. Leakage rates greater than 5.0 gpm are considered unacceptable.

(b) Minimum differential test pressure shall not be less than 150 psid.

See ITS 3.4.14

ITS 3.4.13

A.1

11-26-77

ITS

REACTOR COOLANT SYSTEM

STEAM GENERATORS

LIMITING CONDITION FOR OPERATION

3.4.5 Each steam generator in a non-isolated reactor coolant loop shall be OPERABLE.

L.A.1

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more steam generators in non-isolated reactor coolant loops inoperable, restore the inoperable generator(s) to OPERABLE status prior to increasing T_{avg} above 200°F.

SURVEILLANCE REQUIREMENTS

SR 3.4.13.2

4.4.5.0 Each steam generator shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the required Specification 4.0.5.

A.4

4.4.5.1 Steam Generator Sample Selection and Inspection - Each steam generator shall be determined OPERABLE during shutdown by selecting and inspecting at least the minimum number of steam generators specified in Table 4.4-1.

4.4.5.2 Steam Generator Tube Sample Selection and Inspection - The steam generator tube minimum sample size, inspection result classification, and the corresponding action required shall be as specified in Table 4.4-2. The inservice inspection of steam generator tubes shall be performed at the frequencies specified in Specification 4.4.5.3 and the inspected tubes shall be verified acceptable per the acceptance criteria of Specification 4.4.5.4. The tubes selected for each inservice inspection shall include at least 3% of the total number of tubes in all steam generators; the tubes selected for these inspections shall be selected on a random basis except:

(See ITS 5.0)

a. Where experience in similar plants with similar water chemistry indicates critical areas to be inspected, then at least 50% of the tubes inspected shall be from these critical areas.

b. The first sample of tubes selected for each inservice inspection (subsequent to the preservice inspection) of each steam generator shall include:

SR 3.4.12.2

Insert proposed SR 3.4.13.2

A.4

UNIT 2

A.1

12-12-88

ITS

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

LCO 3.4.13.a a. No PRESSURE BOUNDARY LEAKAGE,

LCO 3.4.13.b b. 1 GPM UNIDENTIFIED LEAKAGE,

LCO 3.4.13.d c. 1 GPM total primary-to-secondary leakage through all steam generators ~~not isolated from the Reactor Coolant System~~ and 500 gallons per day through any one steam generator ~~not isolated from the Reactor Coolant System,**~~ A.2 A.3

LCO 3.4.13.e d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

LCO 3.4.13.c e. 30 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig, and (see ITS 3.5.5)

f. Leakage for the Reactor Coolant System Pressure Isolation Valves specified in Table 3.4-1.* (see ITS 3.4.14)

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

ACTION:

Condition B a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

Condition A / Condition B b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from the Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (See ITS 3.4.14)

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (See ITS 3.4.14)

*The leakage limit for any RHR system isolation valve shown in Table 3.4-1 shall be 5 GPM. (See ITS 3.4.14)

~~**When in Mode 1 above 50% power, provisions of Specification 3.4.6.3 apply.~~ A.3

A.1

11-17-80

CTS

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. ~~Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.~~

b. ~~Monitoring the containment sump inventory and discharge at least once per 12 hours.~~

L.2

L.1

Insert proposed SR 3.4.13.1 Note

c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is 2235 ± 20 psig at least once per 31 days with the modulating valve fully open. The provisions of Specification 4.0.4 are not applicable for entry into MODE 4.

See ITS 3.5.5

SR 3.4.13.1

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours.

e. ~~Monitoring the reactor head flange leakoff temperature at least once per 24 hours.~~

L.2

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE pursuant to Specification 4.0.5, except that in lieu of any leakage testing required by Specification 4.0.5, each valve shall be demonstrated OPERABLE by verifying leakage to be within its limit:

a. At least once per 18 months.

b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months.

c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.

d. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve.

5

See ITS 3.4.14

Rev. 0

ITS 3.4.13

(A.1)

8-21-80

REACTOR COOLANT SYSTEM

TABLE 3.4-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

VALVE NUMBER	FUNCTION
2-SI-85 2-SI-93 2-SI-107 2-SI-119	High head safety injection to cold legs and hot legs
MOV-2836 MOV-2869A, B	High head safety injection off charging header
MOV-2867C, D	Boron injection tank outlet valves
2-SI-91 2-SI-99 2-SI-105	Low head safety injection to cold legs
2-SI-126 2-SI-129	Low head safety injection to hot legs
2-SI-151 2-SI-170 2-SI-153 2-SI-185 2-SI-168 2-SI-187	Accumulator discharge check valves
MOV-2700 MOV-2701 MOV-2720A, B	RHR system isolation valves
MOV-2890 A, B, C & D	Low head safety injection to cold legs and hot legs

See 3.4.14

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ITS 3.4.13

A.1

8-21-80

REACTOR COOLANT SYSTEM

STEAM GENERATORS

LIMITING CONDITION FOR OPERATION

3.4.5 Each steam generator in a non-isolated reactor coolant loop shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more steam generators in non-isolated reactor coolant loops inoperable, restore the inoperable generator(s) to OPERABLE status prior to increasing T_{avg} above 200°F.

LA.1

SURVEILLANCE REQUIREMENTS

SR 3.4.13.2

4.4.5.0 Each steam generator shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the required Specification 4.0.5.

A.4

4.4.5.1 Steam Generator Sample Selection and Inspection - Each steam generator shall be determined OPERABLE during shutdown by selecting and inspecting at least the minimum number of steam generators specified in Table 4.4-1.

4.4.5.2 Steam Generator Tube Sample Selection and Inspection - The steam generator tube minimum sample size, inspection result classification, and the corresponding action required shall be as specified in Table 4.4-2.
The inservice inspection of steam generator tubes shall be performed at the frequencies specified in Specification 4.4.5.3 and the inspected tubes shall be verified acceptable per the acceptance criteria of Specification 4.4.5.4. The tubes selected for each inservice inspection shall include at least 3% of the total number of tubes in all steam generators; the tubes selected for these inspections shall be selected on a random basis except:

(See ITS 50)

a. Where experience in similar plants with similar water chemistry indicates critical areas to be inspected, then at least 50% of the tubes inspected shall be from these critical areas.

b. The first sample of tubes selected for each inservice inspection (subsequent to the preservice inspection) of each steam generator shall include:

SR 3.4.13.2

Insert proposed SR 3.4.13.2

A.4

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 3.4.6.2.c states that the RCS leakage shall be limited to 1 GPM total primary-to-secondary leakage through all steam generators not isolated from the Reactor Coolant System and 500 gallons per day through any one steam generator not isolated from the Reactor Coolant System. ITS 3.4.13 contains the same limits on primary-to-secondary leakage, but does not contain the qualification that the steam generators must not be isolated from the RCS.

This change is acceptable because under the ITS the steam generators cannot be isolated from the RCS in the MODES in which ITS 3.4.13 applies and, therefore, the qualification is unnecessary. ITS 3.4.17 requires that the loop isolation valves be open in MODES 1 – 4, which is also the Applicability of ITS 3.4.13. This change is designated as administrative as it eliminates a requirement which has been superceded by another change to the Specifications.

A.3 CTS LCO 3.4.13.c contains an asterisk reference to a footnote which states that CTS Specification 3.4.6.3 applies when in MODE 1 above 50% power. ITS Specification 3.4.13 does not contain this footnote.

This change is acceptable because the ITS format eliminates informational references to other Specifications. Such references do not impose or change requirements and are, therefore, unnecessary. This change is designated as administrative as it eliminates a reference which contains no requirements.

A.4 CTS 4.4.5.0 states, "Each steam generator shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the required Specification 4.0.5." ITS SR 3.4.13.2 states that the RCS operational leakage must be verified to be within limits in accordance with the Steam Generator Tube Surveillance Program. This changes the CTS by changing the reference to the required testing from the testing in CTS 3.4.5 and Specification 4.0.5 to the Steam Generator Tube Inspection Program in the ITS Administrative Controls.

The purpose of SR 3.4.13.2 is to provide a link to the Steam Generator Tube Surveillance Program in the Administrative Controls. The ITS moves the Steam Generator tube inspection from CTS 3.4.5 to a program in the Administrative

Controls section. This change is acceptable because it creates an administrative reference to the Steam Generator Tube Surveillance Program and does not, of itself, impose any new requirements. Differences between CTS 3.4.5 and the Steam Generator Tube Surveillance Program are discussed in ITS Section 5.0. In both the CTS and the ITS, discovery while in MODES 1 – 4 that the steam generators have not been inspected in accordance with the stated requirements results in entry into LCO 3.0.3. Therefore, adding this Surveillance imposes no new requirements. This change is designated as administrative because it does not result in a technical change to the Specifications.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.4.5 states, "Each steam generator in a non-isolated reactor coolant loop shall be OPERABLE." The ITS does not contain a similar requirement. However, the Bases for the RCS loop specifications which require one or more steam generators, Specifications 3.4.4, 3.4.5, 3.4.6, and 3.4.7, define an OPERABLE steam generator as one which is OPERABLE in accordance with the Steam Generator Tube Surveillance Program. This changes the CTS by moving the definition of an OPERABLE steam generator to the ITS 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 that the needed RCS loops be OPERABLE. The Bases defines an operable RCS loop as consisting of an unisolated RCS loop with an OPERABLE Reactor Coolant Pump and an OPERABLE steam generator. The Bases for the RCS loop specifications define the OPERABILITY requirements for a Reactor Coolant Pump and a steam generator, in accordance with the ITS conventions. 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.

LESS RESTRICTIVE CHANGES

L.1 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS Surveillance 4.4.6.2.1.d requires the performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation. ITS SR 3.4.13.1 also requires that RCS operational leakage be verified to be within its limits by performance of an RCS water inventory balance every 72 hours during steady state operation. In addition, ITS SR 3.4.13.1 contains a Note which states that the Surveillance is not required to be performed until 12 hours after establishment of steady state operation. This changes the CTS by providing an exception to the Surveillance Frequency.

The purpose of this change is to allow establishment of steady state conditions before the Surveillance is required. Performance of the water inventory balance requires approximately one hour of steady state operation and it is not desired to stop required testing or escalation to a higher MODE solely for the performance of this test. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. Other means of monitoring RCS operational leakage are prior to establishment of steady state conditions, such as containment sump level, containment atmosphere particulate monitor, and visual inspection of the RCS. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.2 *(Category 5 – Deletion of Surveillance Requirement)* CTS Surveillances 4.4.6.2.1.a, 4.4.6.2.1.b, and 4.4.6.2.1.e require monitoring of the containment atmosphere particulate radioactivity monitor and the containment sump inventory and discharge every 12 hours, and the reactor head flange leakoff temperature every 24 hours. The ITS does not contain these Surveillance Requirements. This changes the CTS by eliminating these Surveillance Requirements.

This change is acceptable because the deleted Surveillance Requirements are not necessary to verify that the LCO is being met. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the LCO is being met. The indications in the Surveillance Requirements are not necessarily indications of failure to meet the LCO on RCS operational leakage. These items do provide useful information and the containment atmosphere particulate monitor and the containment sump level are required to be OPERABLE by ITS 3.4.15, "RCS Leakage Detection Instrumentation." However, under SR 3.0.1, failure to meet the Surveillance results in failure to meet the LCO. As these indications do not necessarily indicate a failure to meet the LCO, it is not appropriate to retain these indications in this Specification. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

UNIT 1

A.1

ITS

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators not isolated from the Reactor Coolant System and 500 gallons per day through any one steam generator not isolated from the Reactor Coolant System,*

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

See ITS 3.4.13

e. 30 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig, and

See ITS 3.5.5

f. Leakage for the Reactor Coolant System Pressure Isolation Valves ~~specified in Table 3.4-1~~ required to be tested shall be within limit

LA.1

LCO 3.4.14

A.2

L.2

APPLICABILITY: MODES 1, 2, 3 and 4.

INSERT 1

L.1

ACTION:

Insert proposed 3.4.14 ACTION NOTE 1

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.4.13

Insert proposed 3.4.14 ACTION NOTE 2

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from the Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

L.3

See 3.4.13

Insert proposed 3.4.14 ACTION A

Action A

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

L.3

Required Action and associated Completion Time for Condition A not met,

Action B

L.3

*When in Mode 1 above 50% power, provisions of Specification 3.4.6.3 apply.

See ITS 3.4.13

INSERT 1

, except valves in the residual heat removal (RHR) flow path when in, or during the transition to or from, the RHR mode of operation.

A.1

4-20-81

ITS

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

(See 3.4.13)

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by: 22

a. Monitoring the containment atmosphere particulate radioactivity monitoring at least once per 12 hours.

b. Monitoring the containment sump inventory and discharge at least once per 12 hours.

(See 3.5.5)

c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is 2235 ± 20 psig at least once per 31 days with the modulating valve fully open,

(See 3.4.13)

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and

e. Monitoring the reactor head flange leakoff temperature at least once per 24 hours.

Insert proposed SR 3.4.14.1

SR 3.4.14.1

4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4.1 shall be individually demonstrated OPERABLE by verifying leakage* to be within its limit: L.7

In accordance with the Inservice Testing Program, and 18 months

a. Prior to entering MODE 2 after each refueling, A.4

b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months, and 22 L.4

7 days

c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve. L.5

Insert proposed SR 3.4.14.1, NOTE 1 A.3

Within 24 hours following valve actuation due to automatic or manual action or flow through the valve. M.1

Insert proposed SR 3.4.14.1, NOTE 2 L.1

Insert proposed SR 3.4.14.1, NOTE 3 M.1

*To satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria. LA.2 22

A.1

4-20-81

TABLE 3.4.1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

System	Valve No.	Maximum (a)(b) Allowable Leakage
Low Head Safety Injection to Cold Legs		
Loop 1	1-SI-83	≤ 5 gpm
	1-SI-195	≤ 5 gpm
Loop 2	1-SI-86	≤ 5 gpm
	1-SI-197	≤ 5 gpm
Loop 3	1-SI-89	≤ 5 gpm
	1-SI-199	≤ 5 gpm

LA.1

22

Footnotes:

(a) 1. Leakage rates less than or equal to 1.0 gpm are considered acceptable.

2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

3. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

4. Leakage rates greater than 5.0 gpm are considered unacceptable.

(b) Minimum differential test pressure shall not be less than 150 psid.

UNIT 2

A.1

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

ITS

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators not isolated from the Reactor Coolant System and 500 gallons per day through any one steam generator not isolated from the Reactor Coolant System,**

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

(See 3.4.13)

e. 30 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig, and

(See 3.5.5)

LCO 3.4.14 Appl.

A.2

f. Leakage for the Reactor Coolant System Pressure Isolation Valves ~~specified in Table 3.4-1~~ required to be tested shall be within limit

LA.1

L.2

APPLICABILITY: MODES 1, 2, 3 and 4*

INSERT 1

L.1

ACTION:

Insert proposed 3.4.14 ACTION Note 1

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

(See 3.4.13)

Insert proposed 3.4.14 ACTION Note 2

Action A

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE ~~and leakage from the Reactor Coolant System Pressure Isolation Valves~~, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

L.3

(See 3.4.13)

Action B

Insert proposed 3.4.14 ACTION A

L.3

c. ~~With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit,~~ be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

L.3

Required Action and associated Completion Time for Condition A not met,

~~*The leakage limit for any RHR system isolation valve shown in Table 3.4-1 shall be 5 GPM.~~

L.7

**When in Mode 1 above 50% power, provisions of Specification 3.4.6.3 apply.

(See 3.4.13)

INSERT 1

, except valves in the residual heat removal (RHR) flow path when in, or during the transition to or from, the RHR mode of operation.

A.1

11-17-80

ITS

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

(See 3.4.13)

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.

b. Monitoring the containment sump inventory and discharge at least once per 12 hours.

(See 3.5.5)

c. Measurement of the CONTROLLED LEAKAGE to the reactor coolant pump seals when the Reactor Coolant System pressure is 2235 ± 20 psig at least once per 31 days with the modulating valve fully open. The provisions of Specification 4.0.4 are not applicable for entry into MODE 4.

(See 3.4.13)

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours.

e. Monitoring the reactor head flange leakoff temperature at least once per 24 hours.

SR 3.4.14.1

~~4.4.6.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 shall be demonstrated OPERABLE pursuant to Specification 4.0.5, except that in lieu of any leakage testing required by Specification 4.0.5, each valve shall be demonstrated OPERABLE by verifying leakage to be within its limit:~~

Insert proposed SR 3.4.14.1 (L.7)

a. At least once per 18 months. In accordance with the Inservice Testing Program and (A.4)

b. Prior to entering MODE 2 whenever the plant has been in COLD SHUTDOWN for ~~72 hours~~ 7 days or more and if leakage testing has not been performed in the previous 9 months. (L.4)

c. ~~Prior to returning the valve to service following maintenance, repair or replacement work on the valve.~~ (L.5)

d. Within 24 hours following valve actuation due to automatic or manual action or flow through the valve.

Insert proposed SR 3.4.14.1, Note 1 (A.3)

INSERT SR 3.4.14.1, NOTE 2 (L.1)

INSERT SR 3.4.14.1, NOTE 3 (L.6)

A.1

8-21-80

REACTOR COOLANT SYSTEM

TABLE 3.4-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

VALVE NUMBER	FUNCTION
2-SI-85 2-SI-93 2-SI-107 2-SI-119	High head safety injection to cold legs and hot legs
MOV-2836 MOV-2869A, B	High head safety injection off charging header
MOV-2867C, D	Boron injection tank outlet valves
2-SI-91 2-SI-99 2-SI-105	Low head safety injection to cold legs
2-SI-126 2-SI-129	Low head safety injection to hot legs
2-SI-151 2-SI-170 2-SI-153 2-SI-185 2-SI-168 2-SI-187	Accumulator discharge check valves
MOV-2700 MOV-2701 MOV-2720A, B	RHR system isolation valves
MOV-2890 A, B, C & D	Low head safety injection to cold legs and hot legs

LA.1

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 ITS 3.4.14 contains ACTION Note 2 which states, "Enter applicable Conditions and Required Actions for systems made inoperable by an inoperable PIV." CTS 3.4.6.2 does not specifically state a similar requirement.

This change is acceptable because it does not change the intent or application of the Specification. The CTS definition of OPERABLE requires declaring equipment inoperable if it is incapable of performing its safety function. This Note makes clear that ITS LCO 3.0.6 cannot be invoked in this case and systems rendered inoperable due to a leaking PIV or a flow path closed to isolate a leaking PIV must be declared inoperable and the applicable Conditions and Required Actions must be taken. This change is designated as administrative because it does not change the intent of the specification.

A.3 CTS Surveillances 4.4.6.2.2.b and Unit 1 CTS Surveillance 4.4.6.2.2.a require testing of RCS PIVs prior to entering MODE 2. Unit 2 CTS Surveillance 4.4.6.2.2.a requires testing every 18 months. However, Surveillance 4.4.6.2.2.b can be used to meet this Surveillance, so the exception to enter MODES 3 and 4 prior to performing the testing applies. ITS SR 3.4.14.1 contains a Note which states that RCS PIV testing is not required to be performed in MODES 3 and 4.

This change is acceptable because it applies a general Note to the Surveillance instead of exceptions on each Frequency of the Surveillance. This change is designated as administrative because it does not result in a technical change to the Specifications.

A.4 Unit 1 CTS Surveillance 4.4.6.2.2.a requires testing of RCS PIVs prior to entering MODE 2 after each refueling. Unit 2 CTS 4.4.6.2.2 requires testing of RCS PIVs in accordance with 4.0.5 (the Inservice Testing Program) and every 18 months. ITS SR 3.4.14.1 requires testing of RCS PIVs in accordance with the Inservice Testing (IST) Program and every 18 months.

This change is acceptable because it does not change the testing Frequency of the RCS PIVs. The Unit 1 and Unit 2 RCS PIVs are tested under the IST program. Stating that the valves must be tested on a Frequency specified in the IST program does not impose any new requirement. The North Anna refueling interval is 18

months. Requiring testing every 18 months and requiring testing after each refueling does not change the test Frequency. This change is designated as administrative because it does not result in a technical change to the specifications.

MORE RESTRICTIVE CHANGES

M.1 The Unit 1 CTS does not require testing of RCS PIVs following actuation. ITS SR 3.4.14.1 contains a Frequency which requires RCS PIVs to be tested within 24 hours following valve actuation due to automatic or manual action or flow through the valve. SR 3.4.14.1, Note 3, states that such testing does not have to be performed more than once on valves if a repetitive testing loop cannot be avoided.

This change is acceptable because is ensures that the RCS PIVs have seated correctly and meet the leakage limits after they have been operated. Without such testing, a leaking RCS PIV could go undetected until the next Surveillance test. This change is designated as more restrictive because it requires more Frequent testing of components.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.4.6.2 contains a list of the RCS PIVs and their associated leakage limits. ITS 3.4.14 does not contain a list of the RCS PIVs and the leakage limits are located in SR 3.4.14.1. This changes the CTS by relocating the list of PIVs 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 requires the RCS PIVs to be OPERABLE. It is not necessary for the list of RCS PIVs to be in the Technical Specifications in order to ensure that the RCS PIVs are OPERABLE. Other lists of components, such as containment isolation valves and equipment response times, have been relocated from the Technical Specifications to licensee-controlled documents while retaining the requirements on these components in the Technical Specifications. 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)* Unit 1 CTS 4.4.6.2.2 is modified by a footnote that states that, to satisfy ALARA requirements, leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria. ITS SR 3.4.14.1 does not contain this information. This changes the CTS by moving this information on how the Surveillance may be performed to the Bases.

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 that the PIVs be tested. The method of testing for leakage will vary depending on valve location and plant conditions. Therefore, the CTS footnote information is a detail of testing. 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

L.1 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.4.6.2 is applicable in MODES 1, 2, 3, and 4. ITS 3.4.14 is applicable in MODES 1, 2, and 3, and MODE 4, except valves in the residual heat removal (RHR) flow path when in, or during the transition to or from, the RHR mode of operation. SR 3.4.14.1, Note 2, exempts RHR PIVs from the leakage surveillance when in the shutdown cooling mode of operation. This changes CTS by exempting the RHR isolation PIVs from the leakage requirements when those valves are open.

This change is acceptable because the LCO requirements continue to ensure that the components are maintained consistent with the safety analyses and licensing basis. The RHR PIVs will obviously not meet the leakage requirements when the valves are open to support operation of the RHR system for shutdown cooling. These valves are not opened until RCS pressure is less than the design pressure of the RHR system so overpressurization of the RHR system is not a concern. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.4.6.2 does not contain an ACTION for more than one flow path with RCS PIVs inoperable. In this condition,

entry into LCO 3.0.3 is required. ITS 3.4.14 contains ACTION Note 1 which allows separate condition entry for each flow path. This changes the CTS by allowing the Completion Times to apply to each flow path and prevents an LCO 3.0.3 entry should more than one RCS PIV flow path be inoperable.

The purpose of the RCS PIV leakage limits is to prevent the overpressurization of low pressure systems connected to the RCS. 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 ACTIONS provided in the ITS provide appropriate compensatory measures for one or more RCS PIV flow paths with leakage greater than the limits. As a result, entry into LCO 3.0.3 is not required to ensure plant safety. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.4.6.2, Action c, requires a shutdown to MODE 3 in 6 hours and MODE 5 in the following 30 hours when leakage from required RCS PIVs is greater than the limit. ITS 3.4.14, ACTION A allows 4 hours to restore RCS PIV leakage to within limit. If the RCS PIV leakage can not be restored within limit within 4 hours, the ITS requires a shutdown to MODE 3 in 6 hours and MODE 5 in the following 30 hours. This changes the CTS by allowing up to 4 hours to restore RCS PIV leakage to within limit instead of requiring an immediate shutdown.

The purpose of RCS PIV portion of CTS 3.4.6.2 is to ensure that the RCS is isolated from low pressure systems by two isolation valves. 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. Four hours is a reasonable time to diagnose the RCS PIV leakage and restore it within limit. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.4 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS Surveillance 4.4.6.2.2.b requires testing of RCS PIVs prior to entering MODE 2 whenever the plant has been in Cold Shutdown for 72 hours or more and if leakage testing has not been performed

in the previous 9 months. ITS SR 3.4.14.1 requires testing of RCS PIVs prior to entering MODE 2 whenever the unit has been in MODE 5 for 7 days or more, if leakage testing has not been performed in the previous 9 months. This changes the CTS by allowing shutdowns to MODE 5 from 3 to 7 days in length without requiring RCS PIV testing.

This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The amount of time in MODE 5 does not affect the pressure retaining capability of the PIVs. However, the extended time will reduce the amount of testing required to be performed during a brief shutdown. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.5 *(Category 5 – Deletion of Surveillance Requirement)* CTS Surveillance 4.4.6.2.2.c requires testing of RCS PIVs following maintenance, repair, or replacement work on the valve. ITS 3.4.14 does not include this requirement. This changes the CTS by eliminating a post-maintenance Surveillance Requirement.

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. Whenever the OPERABILITY of a system or component has been affected by repair, maintenance, modification, or replacement of a component, post maintenance testing is required to demonstrate the OPERABILITY of the system or component. This is described in the Bases for ITS SR 3.0.1 and required under SR 3.0.1. In addition, the requirements of 10 CFR 50, Appendix B, Section XI (Test Control), provide adequate controls for test programs to ensure that testing incorporates applicable acceptance criteria. Compliance with 10 CFR 50, Appendix B is required under the unit operating license. As a result, post-maintenance testing will continue to be performed and an explicit requirement in the Technical Specifications is not necessary. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L.6 *(Category 7 – Relaxation Of Surveillance Frequency)* Unit 2 CTS Surveillance 4.4.6.2.2.d requires testing of RCS PIVs within 24 hours following a valve actuation. ITS SR 3.4.14.1 contains a Frequency which requires RCS PIVs to be tested within 24 hours following valve actuation due to automatic or manual action or flow through the valve. SR 3.4.14.1, Note 3, states that such testing does not have to be performed more than once on valves if a repetitive testing loop cannot be avoided. This changes the CTS by allowing valve testing to not be performed if it would result in a repetitive testing loop.

This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The arrangement of valves could lead to a condition in which it is impossible to complete the required testing. However, the performance of a successful test on an RCS PIV, combined with operational leakage detection, gives confidence that the valve will perform as required without additional testing. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.7 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* Unit 1 CTS Surveillance 4.4.6.2.2 requires each RCS PIV specified in CTS Table 3.4-1 be demonstrated OPERABLE by verifying leakage to be within its limit. The Unit 1 leakage limit is 1 gpm to 5 gpm, depending of the results of past tests. In addition, the minimum differential test pressure must be 150 psid or greater. The Unit 2 CTS Surveillance 4.4.6.2.2 requires each RCS PIV specified in CTS Table 3.4-1 be tested in accordance with Specification 4.0.5 (the Inservice Test Program). This requirement is modified by a footnote to LCO 3.4.6.2.f which states that the leakage limit for any RHR system isolation valve shall be 5 gpm. ITS SR 3.4.14.1 requires verification of leakage from each RCS PIV required to be tested equivalent to 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm at an RCS pressure ≥ 2215 psig and ≤ 2255 psig. This changes the Unit 1 and Unit 2 Surveillance acceptance criteria.

The changes to the Surveillance acceptance criteria are summarized in the following tables:

UNIT 1

Valve	CTS Limit	Inservice Testing Limit	Valve Diameter	ITS Limit
1-SI-83	≤ 5 gpm	≤ 1 gpm	6"	≤ 3 gpm
1-SI-195	≤ 5 gpm	≤ 1 gpm	6"	≤ 3 gpm
1-SI-86	≤ 5 gpm	≤ 1 gpm	6"	≤ 3 gpm
1-SI-197	≤ 5 gpm	≤ 1 gpm	6"	≤ 3 gpm
1-SI-89	≤ 5 gpm	≤ 1 gpm	6"	≤ 3 gpm
1-SI-199	≤ 5 gpm	≤ 1 gpm	6"	≤ 3 gpm

The Unit 1 ITS limits are more restrictive than the CTS limits. However, it is North Anna's practice to declare the valve inoperable if it exceeds the IST limit. Therefore, the ITS limits are less restrictive than current plant practice.

UNIT 2

Valve	CTS Limit	Inservice Testing Limit	Valve Diameter	ITS Limit
2-SI-85	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
2-SI-93	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
2-SI-107	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
2-SI-119	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
MOV-2836	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
MOV-2869A, B	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
MOV-2867C, D	IST Limit	≤ 1 gpm	3"	≤ 1.5 gpm
2-SI-91	IST Limit	≤ 1 gpm	6"	≤ 3 gpm
2-SI-99	IST Limit	≤ 1 gpm	6"	≤ 3 gpm
2-SI-105	IST Limit	≤ 1 gpm	6"	≤ 3 gpm
2-SI-126	IST Limit	≤ 1 gpm	6"	≤ 3 gpm
2-SI-128	IST Limit	≤ 1 gpm	6"	≤ 3 gpm
2-SI-151	IST Limit	≤ 1 gpm	12"	≤ 5 gpm
2-SI-153	IST Limit	≤ 1 gpm	12"	≤ 5 gpm
2-SI-168	IST Limit	≤ 1 gpm	12"	≤ 5 gpm
2-SI-170	IST Limit	≤ 1 gpm	12"	≤ 5 gpm
2-SI-185	IST Limit	≤ 1 gpm	12"	≤ 5 gpm
2-SI-187	IST Limit	≤ 1 gpm	12"	≤ 5 gpm
MOV-2700	≤ 5 gpm	Not limiting	14"	≤ 5 gpm
MOV-2701	≤ 5 gpm	Not limiting	14"	≤ 5 gpm

MOV-2720A, B	≤ 5 gpm	Not limiting	10"	≤ 5 gpm
MOV-2890 A, B, C, & D	IST Limit	≤ 1 gpm	10"	≤ 5 gpm

The Unit 2 ITS limits are less restrictive or the same as the CTS limits.

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 Surveillance will continue to allow RCS high pressure operation when leakage through these valves exists in amounts that do not compromise safety. The Surveillance limits will prevent degradation of the PIVs from going undetected and avoiding the potential of the connected low pressure systems being overpressurized. The requirement that the leak rates be adjusted to a pressure equivalent to system pressure is consistent with current plant practice. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

UNIT 1

A.1

ITS

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.15

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

b a. The containment atmosphere particulate ~~and~~ or gaseous radioactivity monitoring system, and L.3

a b. One The containment sump level ~~and~~ or discharge flow monitor measurement system. A.3 L.2

Appl. Insert proposed REQUIRED ACTIONS NOTE

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

Insert proposed ACTION B.1.1

ACTION: INSERT proposed Action note L.1

Action A.2, B.1.2
Action A.1, B.2
Action C.1
Action C.2

With one of the above required leakage detection systems inoperable, operation may continue for up to 30 days provided a RCS leakrate calculation (Specification 4.4.6.2.1.d) is performed at least once per 24 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT proposed Action D.1

SURVEILLANCE REQUIREMENTS A.2

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

SR 3.4.15.1
SR 3.4.15.2
SR 3.4.15.4

a. Containment atmosphere particulate and gaseous radioactivity monitoring system - performance of CHANNEL CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3,

SR 3.4.15.3

b. Containment sump level and discharge flow measurement system - performance of CHANNEL CALIBRATION at least once per 18 months.

ITS

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. AREA MONITORS				
a. Fuel Storage Pool Area				
i. Criticality Monitor #	S	R	M	*
b. Containment				
i. Purge & Exhaust Isolation	S	R	M	6
ii. High Range Area	S	R	M	1, 2, 3, & 4
2. PROCESS MONITORS				
a. Ventilation Vent #				
i. Gaseous Gross Activity	S	R	M	**
ii. Particulate Gross Activity	S	R	M	**
b. Containment				
i. Gaseous Activity				
a) Purge & Exhaust Isolation	S	R	M	6
b) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
ii. Particulate Activity				
a) Purge & Exhaust Isolation	S	R	M	6
b) RCS Leakage Detection	S	R	M	1, 2, 3, & 4

92 days

*With fuel in the storage pool or building
**With irradiated fuel in the storage pool
#Common to Unit 1 and Unit 2

See CTS 3.3.3.1

See CTS 3.3.3.1

See ITS 3.3.3

See CTS 3.3.3.1

See CTS 3.3.3.1

3.4.15.1
3.4.15.2
3.4.15.4

3.4.15.1
3.4.15.2
3.4.15.4

See CTS 3.3.3.1

A.1

L.4

ITS

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. AREA MONITORS					
a. Fuel Storage Pool Area					
i. Criticality Monitor #	1	*	$\leq$ 15 mR/hr	10^{-4} - 10^{+1} R/hr	19
b. Containment					
i. Purge & Exhaust Isolation	1	6	$\leq$ 50 mR/hr	10^{-4} - 10^{+1} R/hr	22
ii. High Range Area	2	1,2,3,&4	$\leq$ 1.6x10^{+5} R/hr	10^{0} - 10^{+7} R/hr	35
2. PROCESS MONITORS					
a. Ventilation Vent #					
i. Gaseous Gross Activity	1	**	$\leq$ 1 x 10^{-5} µCi/ml	10 - 10^{6} cpm	21
ii. Particulate Gross Activity	1	**	$\leq$ 2 x 10^{-9} µCi/ml	10 - 10^{6} cpm	21
b. Containment					
i. Gaseous Activity					
a) Purge & Exhaust Isolation	1	6	$\leq$ 3.6 x 10^{3} cpm	10 - 10^{6} cpm	22
b) RCS Leakage Detection	1	1, 2, 3 & 4	N/A	10 - 10^{6} cpm	20
ii. Particulate Activity					
a) Purge & Exhaust Isolation	1	6	$\leq$ 1 x 10^{5} cpm	10 - 10^{6} cpm	22
b) RCS Leakage Detection	1	1, 2, 3 & 4	N/A	10 - 10^{6} cpm	20

* With fuel in the storage pool or building
** With irradiated fuel in the storage pool
\# Common to Unit 1 and Unit 2

See CTS 3.3.3.1

See CTS 3.3.3.1

See ITS 3.3.3

See CTS 3.3.3.1

See CTS 3.3.3.1

See CTS 3.3.3.1

Actions A.1, A.2, B.1.2, B.2, C.1 + C.2

LA.1

LA.1

A.1

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Rev 0

ITS 3.4.15

A.1

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

See CTS 3.3.3.1

ACTION 19 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

Actions A.1, A.2, B.1.2, B.2, C.1 + C.2

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.12.

See CTS 3.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.

See ITS 3.3.3

ACTION 35 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1. Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

2. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

UNIT 2

ITS

REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.15 3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

b a. The containment atmosphere particulate and (or) gaseous radioactivity monitoring system, and L.3

a b. One The containment sump (1) level and (or) discharge flow (1) measurement system (monitor). A.3

Appl. Insert proposed ACTION B.1.1 APPLICABILITY: MODES 1, 2, 3 and 4. Insert proposed REQUIRED ACTIONS NOTE L.2 M.1

ACTION: L.1

INSERT proposed Actions Note

Action A.2, B.1.2 Action A.1, B.2 Action C.1 Action C.2

With one of the above required leakage detection systems inoperable, operation may continue for up to 30 days provided a RCS leakrate calculation (Specification 4.4.6.2.1.d) is performed at least once per 24 hours. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSERT proposed Action D.1

SURVEILLANCE REQUIREMENTS A.2

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

SR 3.4.15.1 SR 3.4.15.2 SR 3.4.15.4 a. Containment atmosphere particulate and gaseous radioactivity monitoring system - performance of CHANNEL CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3,

SR 3.4.15.3 b. Containment sump level and discharge flow measurement system - performance of CHANNEL CALIBRATION at least once per 18 months.

ITS

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. AREA MONITORS				
a. Fuel Storage Pool Area Criticality Monitor #	S	R	M	*
b. Containment				
i. Purge & Exhaust Isolation	S	R	M	6
ii. High Range Area	S	R	M	1, 2, 3, & 4
2. PROCESS MONITORS				
a. Ventilation Vent #				
i. Gaseous Gross Activity	S	R	M	**
ii. Particulate Gross Activity	S	R	M	**
b. Containment				
i. Gaseous Activity				
a) Purge & Exhaust Isolation	S	R	M	6
b) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
ii. Particulate Activity				
a) Purge & Exhaust Isolation	S	R	M	6
b) RCS Leakage Detection	S	R	M	1, 2, 3, & 4

92 days

* With fuel in the storage pool or building
** With irradiated fuel in the storage pool
# Common to Unit 1 and Unit 2

See CTS 3.3.3.1

See CTS 3.3.3.1

See ITS 3.3.3

See CTS 3.3.3.1

See CTS 3.3.3.1

3.4.15.1
3.4.15.2
3.4.15.4

3.4.15.1
3.4.15.2
3.4.15.4

See CTS 3.3.3.1

page 2 of 4

A.1

L.4

Rev 0

ITS 3.4.15
6-28-85

ITS

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. AREA MONITORS					
a. Fuel storage Pool Area Criticality Monitor #	1	*	$\leq$ 15 mR/hr	10^{-4} - 10^{+1} R/hr	22
b. Containment					
i. Purge & Exhaust Isolation	1	6	$\leq$ 50 mR/hr	10^{-4} - 10^{+1} R/hr	25
ii. High Range Area	2	1,2,3, & 4	$\leq$ $1.6 \times 10^{+3}$ R/hr	10^{0} - 10^{+7} R/hr	35
2. PROCESS MONITORS					
a. Ventilation Vent #					
i. Gaseous Gross Activity	1	**	$\leq$ 1×10^{-5} μCi/ml	10 - 10^{6} cpm	24
ii. Particulate Gross Activity	1	**	$\leq$ 2×10^{-9} μCi/ml	10 - 10^{6} cpm	24
b. Containment					
i. Gaseous Activity					
a) Purge & Exhaust Isolation	1	6	$\leq$ 3.6×10^{3} cpm	10 - 10^{6} cpm	25
b) RCS Leakage Detection	1	1,2,3, & 4	N/A	10 - 10^{6} cpm	23
ii. Particulate Activity					
a) Purge & Exhaust Isolation	1	6	$\leq$ 1×10^{5} cpm	10 - 10^{6} cpm	25
b) RCS Leakage Detection	1	1,2,3, & 4	N/A	10 - 10^{6} cpm	23

* With fuel in the storage pool or building
** With irradiated fuel in the storage pool
\# Common to Unit 1 and Unit 2

See CTS 3.3.3.1

See CTS 3.3.3.1

See ITS 3.3.3

See CTS 3.3.3.1

See CTS 3.3.3.1

Actions A.1, A.2, B.1.2, B.2, C.1, + C.2

See CTS 3.3.3.1

A.1

ITS 3.4.15

Page 3 of 4

Rev 0

TABLE 3.3-6 (Continued)

TABLE NOTATION

ITS

See CTS 3.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

Action A.1, A.2, B.1.2, B.2, C.1, + C.2

ACTION 23 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 24 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.12.

See CTS 3.3.3.1

ACTION 25 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.

See ITS 3.3.3

ACTION 35 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1. Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

2. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

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 3.4.6.1 does not include an explicit requirement to enter LCO 3.0.3 when all required monitors are inoperable. ITS 3.4.15 Required Action D.1 requires entering LCO 3.0.3 when all required monitors are inoperable. This changes CTS by adding a Required Action explicitly requiring entry into LCO 3.0.3, while the CTS would also require entry into LCO 3.0.3 based on not meeting the LCO and not having an explicit Condition to enter.

This change is acceptable because entry into LCO 3.0.3 would be required with or without the Required Action. This change is designated as administrative because it does not result in technical changes to the CTS.

A.3 CTS 3.4.6.1.b states, "The following Reactor Coolant System leakage detection systems shall be OPERABLE: ...b. The containment sump level and discharge flow measurement system." ITS 3.4.15.a states, "The following RCS leakage detection instrumentation shall be OPERABLE: a. One containment sump (level or discharge flow) monitor;..." This changes CTS by more explicitly stating that any one of the components in the system is capable of monitoring the containment sump for Reactor Coolant System leakage.

The purpose of CTS 3.4.6.1.b is to provide assurance that the containment sump level and discharge flow measurement system can provide an indication of Reactor Coolant System leakage. The system described in CTS 3.4.6.1.b consists of two containment sump level monitors and a containment sump discharge flow totalizer. Any one of these components can perform the function of the system. ITS 3.4.15.a explicitly states that either the containment (sump or discharge flow) monitors can perform the function. This change is acceptable because the existing requirement is retained but clarified. This change is designated as administrative because it does not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.6.1 does not include an Action to analyze grab samples of the containment atmosphere if the required containment atmosphere radioactivity monitor is inoperable. ITS 3.4.15 Required Action B.1.1 states, "Analyze grab samples of the containment atmosphere." This changes CTS by adding a Required Action.

This change is acceptable because it provides an additional means of leakage detection while the required containment atmosphere radioactivity monitor is inoperable. This change is designated as more restrictive because it imposes a new Required Action for an existing CTS Condition.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.3.3.1 Table 3.3-6 includes Measurement Ranges for the RCS Leakage Detection instrumentation. ITS does not include these details. This changes the CTS by moving these details to the UFSAR.

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 instrumentation to be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the UFSAR. The UFSAR is controlled under 10 CFR 50.59 which ensures changes are properly evaluated. 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.

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.4.6.1 does not include an exclusion from LCO 3.0.4. ITS 3.4.15 ACTIONS includes a NOTE, "LCO 3.0.4 is not applicable." This changes the CTS by adding an exclusion from LCO 3.0.4, allowing a unit MODE change with the LCO not met.

The purpose of CTS 3.4.6.1 provide assurance that there is a means for detecting, and to the extent practical, identifying the location of the source of RCS leakage. 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 change allows the unit to change MODE without the LCO being met, but requires at least one means of RCS leakage detection remain, and limits the length of time the plant can remain in that condition. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.4.6.1 ACTION does not include an exclusion allowing a delay in performing an RCS water inventory balance. ITS 3.4.15 REQUIRED ACTIONS A.1 and B.1.2 include NOTES that state, "Not required until 12 hours after establishment of steady state operation." This changes the CTS by allowing 12 hours after establishment of steady state operation AND after entering the respective Conditions before an RCS water inventory balance must be performed.

The purpose of the CTS 3.4.6.1 Action to perform an RCS water inventory balance is to provide another means of leakage detection. 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 RCS water inventory balance is still performed, but the delay in performing it allows unit conditions to provide an accurate indication. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.4.6.1.a states, "The following Reactor Coolant System leakage detection systems shall be OPERABLE: a. The containment atmosphere particulate and gaseous radioactivity monitoring system, and..." ITS 3.4.15.b states, "The following RCS leakage detection instrumentation shall be OPERABLE: ...One containment atmosphere radioactivity monitor (gaseous or particulate)." This changes the CTS by requiring only one containment atmosphere radioactivity monitor, gaseous or particulate, instead of two.

The purpose of ITS 3.4.15 is to provide instruments of diverse monitoring principles to be OPERABLE to provide a high degree of confidence that extremely small leaks are detected in time to allow actions to place the plant in a safe condition when RCS

LEAKAGE indicates possible reactor coolant pressure boundary degradation. This change is acceptable because the LCO requirements continue to ensure that components are maintained consistent with the safety analyses and licensing basis. Two means of diverse operating principles for detecting extremely small leaks are still required, one containment sump level monitor and one containment atmosphere radioactivity monitor (gaseous or particulate). A third means of detecting extremely small leaks is no longer required. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.4 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 3.3.3.1 Table 4.3-3 requires a monthly Channel Functional Test for the containment RCS leakage detection radiation monitors. ITS SR 3.4.15.2 requires a Channel Operational Test be performed every 92 days. This changes the CTS by increasing the Frequency for the test from monthly to 92 days.

The purpose of ITS SR 3.4.15.2 is to verify the OPERABILITY of all devices in the channel required for channel OPERABILITY. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The Frequency is increased from monthly to 92 days. As proscribed by NUREG-1366 (12/92), changing this Frequency decreases licensee burden and increases radiation monitor availability, while channel checks and other indications provide indication of failures between Channel Operational Tests. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

UNIT 1

REACTOR COOLANT SYSTEM

3/4.4.8 SPECIFIC ACTIVITY

ITS

LIMITING CONDITION FOR OPERATION

3.4.16

3.4.8 The specific activity of the primary coolant shall be limited ~~to:~~ within

A.1

SR 3.4.16.2 a. ≤ 1.0 µCi/gram DOSE EQUIVALENT I-131, and (See ITS SR 3.4.16.2)

SR 3.4.16.1 b. ≤ 100/$\bar{E}$ µCi/gram. (See ITS SR 3.4.16.1)

L.1

APPLICABILITY: MODES 1, 2, 3, ~~4 and 5~~.

Appl.

ACTION: MODES 1, 2 and 3*

Action A.1

a. With the specific activity of the primary coolant > 1.0 µCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} < 500°F within 6 hours.

Action A.2

b. With the specific activity of the primary coolant > 100/$\bar{E}$ µCi/gram, be in at least HOT STANDBY with T_{avg} < 500°F within 6 hours.

Action C

~~MODES 1, 2, 3, 4 and 5~~

L.1

Action A.1

a. With the specific activity of the primary coolant > 1.0 µCi/gram DOSE EQUIVALENT I-131 ~~or > 100/$\bar{E}$ µCi/gram~~, perform the sampling and analysis requirements of item 4a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits.

L.4

R.A. A.1 Note

Insert proposed Required Action A Note

L.2

*With T_{avg} greater than or equal to 500°F.

ITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

SR 3.4.16.1
SR 3.4.16.2
SR 3.4.16.3

4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

ITS

TABLE 4.4-4

PRIMARY COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE ANALYSIS REQUIRED
1. Gross Activity Determination	At least once per ~~72 hours~~ 7 days	1, 2, 3, ~~4~~ #
2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days	1
3. Radiochemical for $\bar{E}$ Determination	1 per 6 months*	1
4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	a) Once per 4 hours, whenever the specific activity exceeds 1.0 µCi/gram DOSE EQUIVALENT I-131 ~~or 100/$\bar{E}$ µCi/gram~~, and	1#, 2#, 3#, ~~4#, 5#~~
	b) One sample between 2 & 6 hours following a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.	1, 2, 3

L.1 L.3 L.1 A.1 L.4

SR 3.4.16.1

SR 3.4.16.2

Page 3.0-4

SR 3.4.16.3

Action A.1

Action B.1

SR 3.4.16.2

Action 3.4.16.A

SR 3.4.16.3 Note

Rev. 0

#Until the specific activity of the primary coolant system is restored within its limits.

*Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the reactor was last subcritical for 48 hours or longer. within 31 days

Insert proposed SR 3.4.16.3 Note

L.5

ITS 3.4.16

ITS

Figure 3.4.16-1

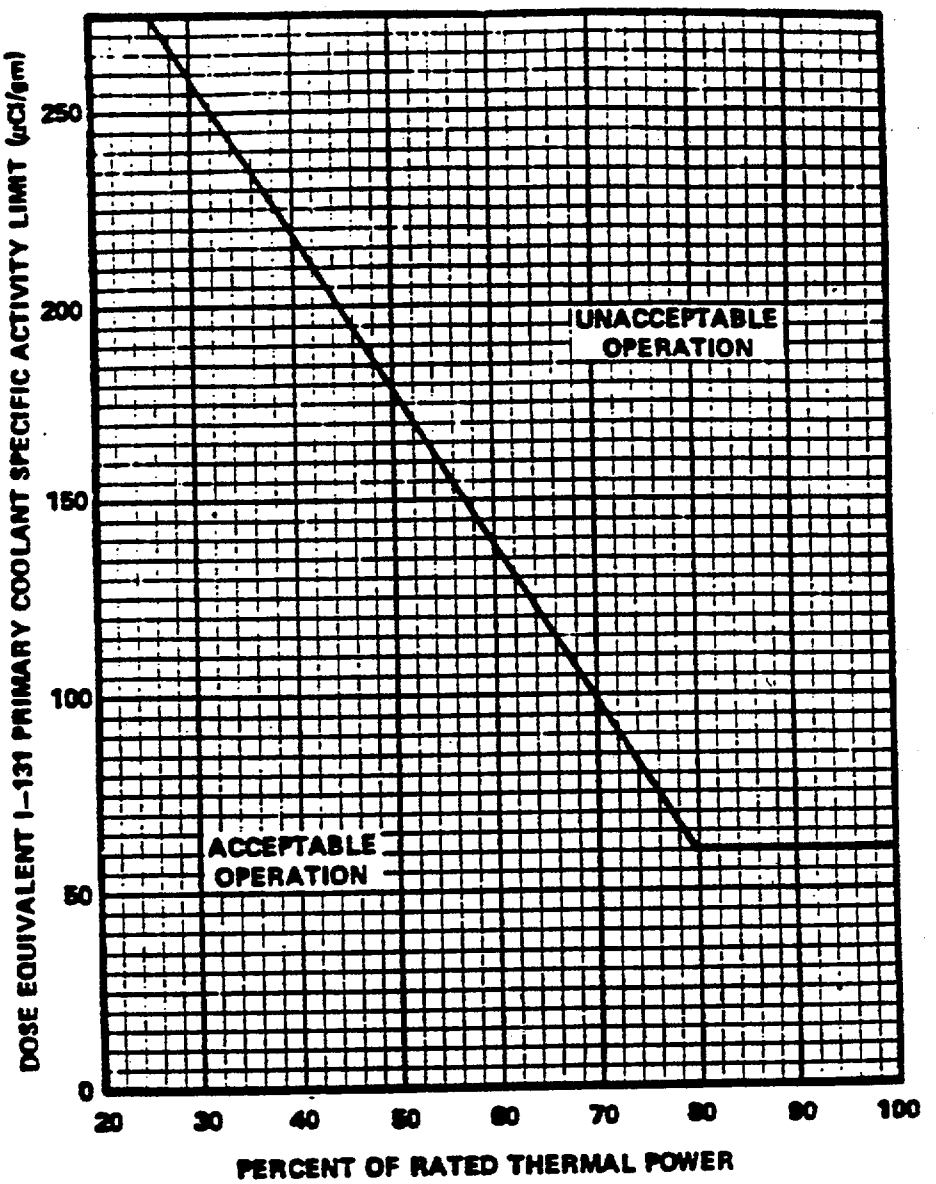

FIGURE 3.4-1

DOSE EQUIVALENT I-131 Primary Coolant Specific Activity Limit Versus Percent of RATED THERMAL POWER with the Primary Coolant Specific Activity $\bar{>}$1.0μCi/gram Dose Equivalent I-131

UNIT 2

A.1

ITS 3.4.16

ITS

3.4.16

SR 3.4.16.2

SR 3.4.16.1

Appl.

Action A.1

Action A.2

Action C

REACTOR COOLANT SYSTEM

3/4.4.8 SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited within ~~to:~~ A.1

a. Less than or equal to 1.0 μCi/gram DOSE EQUIVALENT I-131, and <(See ITS SR 3.4.16.2)>

b. Less than or equal to 100/$\bar{E}$ μCi/gram. <(See ITS SR 3.4.16.1)>

APPLICABILITY: MODES 1, 2, 3, ~~4 and 5~~. L.1

ACTION: MODES 1, 2 and 3*

a. With the specific activity of the primary coolant greater than 1.0 μCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.

b. With the specific activity of the primary coolant greater than 100/$\bar{E}$ μCi/gram, be in at least HOT STANDBY with T_{avg} less than 500°F within 6 hours.

*With T_{avg} greater than or equal to 500°F.

ITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

~~MODES 1, 2, 3, 4 and 5~~

L.1

a. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 ~~or greater than 100/E uCi/gram~~, perform the sampling and analysis requirements of item 4a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits.

L.4

Insert proposed Required Action A Note

L.2

SURVEILLANCE REQUIREMENTS

SR 3.4.16.1
SR 3.4.16.2
SR 3.4.16.3

4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

ITS

SR 3.4.16.1

SR 3.4.16.2

SR 3.4.16.3

Action A.1

Action B.1

Page 3 of 4

SR 3.4.16.2

TABLE 4.4-4

PRIMARY COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE ANALYSIS REQUIRED
1. Gross Activity Determination	At least once per ~~72 hours~~ 7 days	1, 2, 3, ~~4~~ 4
2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days	1
3. Radiochemical for $\bar{E}$ Determination	1 per 6 months*	1
4. Isotopic Analysis for Iodine Including I-131, I-133, and I-135	a) Once per 4 hours, whenever the specific activity exceeds 1.0 µCi/gram DOSE EQUIVALENT I-131 ~~or 100/$\bar{E}$ µCi/gram~~, and	1#, 2#, 3#, ~~4#, 5#~~
	b) One sample between 2 and 6 hours following a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.	1, 2, 3

L.1 L.3 L.1 A.1 L.4

#Until the specific activity of the primary coolant system is restored within its limits.

*Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the reactor was last subcritical for 48 hours or longer.

SR 3.4.16.3 Note

Within 31 days

Insert proposed 3.4.16.3 Note

L.5

8-21-80

ITS 3.4.16

Rev. 0

ITS

Figure 3.4.16-1

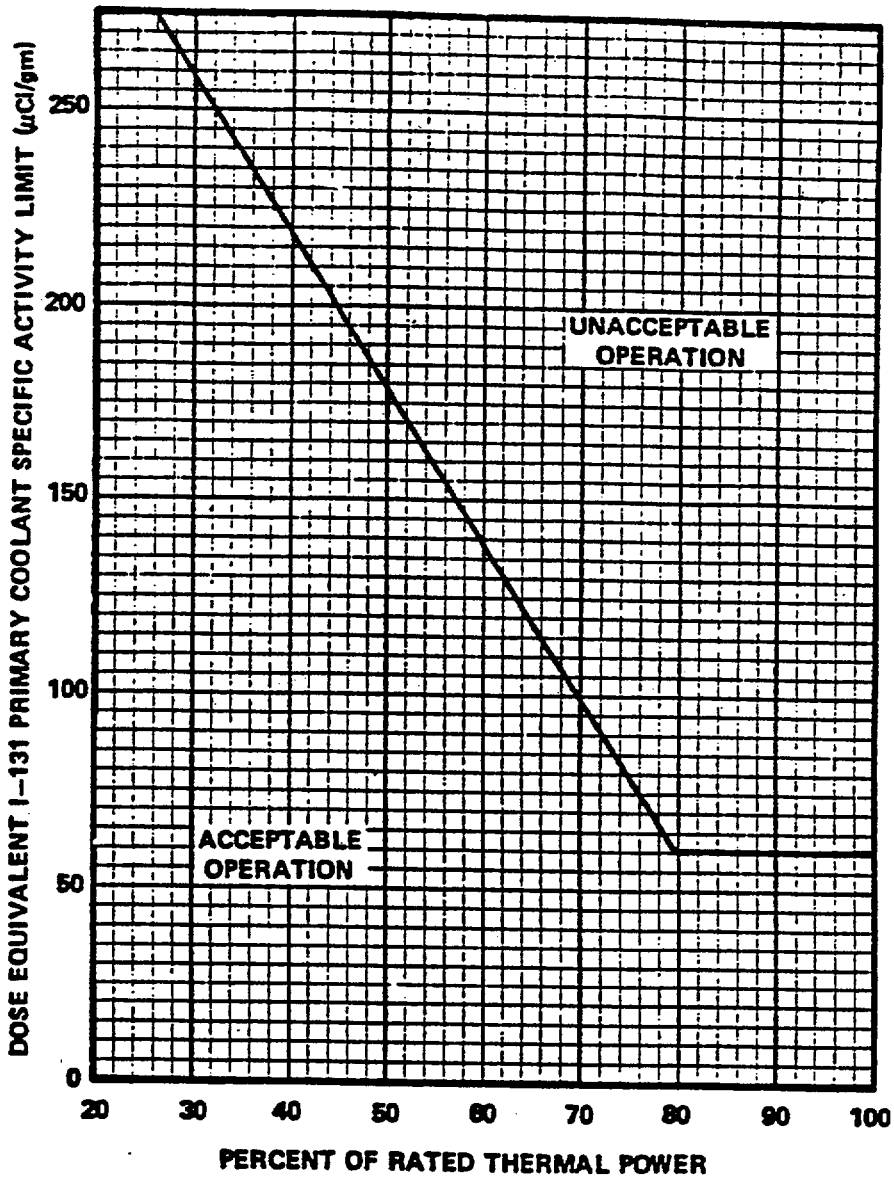

FIGURE 3.4-1

DOSE EQUIVALENT I—131 Primary Coolant Specific Activity Limit Versus Percent of RATED THERMAL POWER with the Primary Coolant Specific Activity > 1.0 μCi/gram Dose Equivalent I-131

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

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 2 – Relaxation of Applicability)* CTS 3.4.8 is applicable in MODES 1, 2, 3, 4, and 5. ITS 3.4.16 is applicable in MODES 1 and 2, and MODE 3 with RCS $T_{avg} \geq 500$ °F. This changes the CTS by reducing the MODES in which the LCO is applicable.

The purpose of CTS 3.4.8 is to ensure that the specific activity of the RCS is within the assumptions of the Steam Generator Tube Rupture (SGTR) analysis. This change is acceptable because the requirements continue to ensure that the process variables are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis During operation in MODE 3 with RCS $T_{avg} \leq 500$ °F, and in MODES 4 and 5, the release of radioactivity in the event of a SGTR is unlikely since the saturation pressure of the reactor coolant is below the lift pressure settings of the main steam safety valves and steam generator power operated relief valves. 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 3.4.8, Action a., states that when the specific activity of the primary coolant > 1.0 μCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in at least HOT STANDBY with T_{avg} < 500 °F within 6 hours. ITS 3.4.16, Action A states that with DOSE EQUIVALENT I-131 > 1.0 μCi/gm, restore the DOSE EQUIVALENT I-131 to within limit within 48 hours. ITS 3.4.16, Action C, states that if the Required Actions and associated Completion Times of Action A are not met, be in MODE 3 with T_{avg} < 500 °F within 6 hours. ITS 3.4.16, Action A, is modified by a Note which states that LCO 3.0.4 is not applicable. This changes the CTS by allowing MODE changes, currently prohibited by LCO 3.0.4, while relying on ITS Action A.

The purpose of CTS 3.4.8 is to ensure that the primary coolant specific activity is maintained to within the assumptions of the safety analyses. 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 LCO 3.0.4 exception allows entry into the applicable MODE(S) while relying on the Actions even though the Actions may eventually require a plant shutdown. This exception is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at, or proceeds to, power operation. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.3 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS Table 4.4-4, Item 1, requires gross activity determination at least once per 72 hours. ITS SR 3.4.16.1 requires verification that the reactor coolant gross specific activity ≤ 100 / $\overline{E}$ μCi/gm every 7 days. This changes the CTS by reducing the Frequency from 72 hours to 7 days.

The purpose of CTS Table 4.4-4, Item 1, is to obtain a quantitative measure of radionuclides with half lives longer than 15 minutes, excluding iodines, which provides an indication of increases in gross specific activity. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of monitoring. A Frequency of 7 days provides sufficient information to trend the results in order to detect gross fuel failure, while considering the low probability of a gross fuel failure between performances. This

change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

L.4 *(Category 4 – Relaxation of Required Action)* CTS Table 4.4-4, Item 4, requires isotopic analysis for iodine once per 4 hours when the specific activity exceeds 100 / $\overline{E}$ µCi/gm. The ITS does not contain this Action. This changes the ITS by eliminating a conditionally performed Surveillance when gross activity exceeds 100 / $\overline{E}$ µCi/gm.

The purpose of CTS 3.4.8, Table 4.4-4, Item a) is to monitor iodine activity when the specific activity limits are exceeded. 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. When specific activity exceeds 100 / $\overline{E}$ µCi/gm, ITS Action B.1 and CTS Action b. require the plant to be in MODE 3 with $T_{avg} \leq 500$ °F within 6 hours. Monitoring of $\overline{E}$ is required in order to determine if the LCO is met and the Action can be exited. Furthermore, if the Condition is entered and the plant is in MODE 2 in 4 hours or less, the Required Action is in conflict with the NOTE of SR 3.4.16.2 which states that this SR is only required in MODE 1. Finally, this action is an unnecessary burden as the plant is required to be in MODE 3 with $T_{avg} < 500$ °F within 6 hours, exiting the mode of applicability. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L.5 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS Table 4.4-4, Item 3, requires radiochemical determination of $\overline{E}$ once per 6 months. Footnote * states that the sample is to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since the reactor was last subcritical for 48 hours or longer. ITS SR 3.4.16.3 requires $\overline{E}$ to be determined from a sample taken in MODE 1 after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours. ITS SR 3.4.16.3 is modified by a Note which states, "Not required to be performed until 31 days after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for ≥ 48 hours. This changes the CTS by putting a limit, 31 days, on when the Surveillance must be performed after the requisite conditions are met.

The purpose of CTS Table 4.4-4, Item 3, is to determine the value of $\overline{E}$ when the isotopic concentrations in the core are stable. This change is acceptable because the

new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of monitoring. Circumstances could arise in which the 6 month Frequency for performance of the SR has passed but the operating conditions for performance of the test have not been met. In this circumstance, the Surveillance would be immediately past due as soon as the operating conditions are met. The ITS Note allows 31 days to perform the Surveillance after the operating conditions are met. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

UNIT 1

A.1

6-2-81

ITS

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

See ITS 3.4.4

Each RCS hot and cold leg loop isolation valve shall be open 28 A.2

LCO 3.4.17

3.4.1.1 All reactor coolant loops shall be in operation with power removed from the loop stop valve operators.

M.1

Appl.

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

ACTION:

With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within 1 hour.

see ITS 3.4.4

A.3

Action Note Insert proposed Action Note

Action A Insert proposed Action A

L.1

28

Action B Insert proposed Action B

M.2

SURVEILLANCE REQUIREMENT

4.4.1.1 The above required reactor coolant loops ~~shall be~~ verified to be in operation and circulating reactor coolant at least once per 12 hours.

See ITS 3.4.4

SR 3.4.17.2

4.4.1.2 At least once per 31 days, with the reactor coolant loops in operation by verifying that the power is removed from the loop stop valve operators.

SR 3.4.17.1 INSERT proposed SR 3.4.17.1

M.3

*See Special Test Exception 3.10.4.

See ITS 3.4.4

UNIT 2

A.1

8-21-80

ITS

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

Each RCS hot and cold leg loop isolation valve shall be open

A.2

STARTUP AND POWER OPERATION

(See ITS 3.4.4)

LIMITING CONDITION FOR OPERATION

LCO 3.4.17

3.4.1.1 All reactor coolant loops shall be in operation with power removed from the loop stop valve operators.

Appl.

APPLICABILITY: MODES 1, and 2.* (3, and 4) M.1

ACTION:

With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within 1 hour. (See ITS 3.4.4)

Action Note Insert proposed Action Note A.3

Action A Insert proposed Action A L.1

Action B Insert proposed Action B M.2

SURVEILLANCE REQUIREMENTS

4.4.1.1 The above required reactor coolant loops shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. (See ITS 3.4.4)

SR 3.4.17.2 4.4.1.2 At least once per 31 days, with the reactor coolant loops in operation by verifying that the power is removed from the loop stop valve operators.

SR 3.4.17.1 INSERT proposed SR 3.4.17.1 M.3

* See Special Test Exception 3.10.4. (See ITS 3.4.4)

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 3.4.1.1 states that all reactor coolant loops shall be in operation with power removed from the loop stop valve operators. ITS 3.4.4 states that all reactor coolant loops shall be OPERABLE and in operation. ITS 3.4.17 states that all RCS hot and cold leg loop isolation valves shall be open with power removed from each isolation valve operator. This changes the CTS by dividing the existing LCO requirements into two LCOs.

This change is designated as administrative as it is editorial resulting in no technical change to the Technical Specifications.

A.3 ITS 3.4.17 Actions are modified by a Note that states that separate condition entry is allowed for each RCS loop isolation valve. CTS does not contain this allowance.

This change is acceptable because the CTS does not provide any Actions pertaining to the loop isolation valves. The Note modifies the Actions added to the CTS as described in L.1 and M.2. The addition of the Note itself results in no changes to the CTS except as related to the addition of the ITS Actions. This change is designated as administrative as it is an editorial change related to other described changes.

MORE RESTRICTIVE CHANGES

M.1 CTS 3.4.1.1 states that the reactor coolant loops must be in operation with power removed from the loop stop valve isolators in MODES 1 and 2. ITS 3.4.17 states that the loop isolation valves must be open with power removed from the isolation valve operators in MODES 1, 2, 3 and 4. This changes the CTS by requiring that the loop isolation valves be open with power removed from the loop operators in MODES 3 and 4 in addition to MODES 1 and 2.

This change is acceptable because the Technical Specifications allow an RCS loop to be used for decay heat removal in MODES 3 and 4 and it is important to ensure that the loop isolation valves on any RCS loops being used to remove decay heat are open. This is accomplished by requiring the isolation valves to be open with power removed

from the valve operators. This will ensure that the decay heat removal function is not interrupted. This change is consistent with ITS 3.4.18 which allows the loop isolation valves to be closed in MODES 5 and 6. This change is designated as more restrictive because it expands the MODES in which a requirement applies.

M.2 CTS 3.4.1.1 states that the reactor coolant loops must be in operation with power removed from the loop stop valve operators in MODES 1 and 2. The action states that if less than the required reactor coolant loops are in operation, the unit must be in hot standby within 1 hour. ITS 3.4.17 states that if a loop isolation valve is closed, the valve must be maintained closed, the unit must be in MODE 3 within 6 hours and be in MODE 5 in 36 hours. The Condition is modified by a Note that states that all of the Required Actions must be completed whenever the condition is entered. The Actions are modified by a Note that states that separate condition entry is allowed for each RCS loop isolation valve.

This change is acceptable because the opening of a loop isolation valve must be performed in accordance with LCO 3.4.18, "RCS Isolated Loop Startup," which is only applicable in MODES 5 and 6. Therefore, it is necessary to shutdown to MODE 5 when a loop isolation valve is inadvertently closed in MODES 1 through 4. This change is designated as more restrictive because it requires a shutdown to MODE 5 in a condition for which a shutdown to MODE 3 is currently required.

M.3 ITS 3.4.17.1 states, "Verify each RCS loop isolation valve is open," at a Frequency of once prior to removing power to the valve operator. CTS does not include an explicit requirement to verify each RCS loop isolation valve is open. This changes CTS by adding an explicit Surveillance Requirement to verify each RCS loop isolation valve is open.

This change is acceptable because it provides periodic verification that the requirements of the LCO are met. Valve position indication is only available when power is available for each loop isolation operator. Verification of valve position is performed prior to entering the Mode of Applicability, and power is then verified removed from the valve operators every 31 days to provide assurance the valves are still open. This change is designated as more restrictive because it imposes a Surveillance that is not in the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.4.1.1 requires that all reactor coolant loops be in operation with power removed from the loop stop valve operators. CTS 3.4.1.1 does not contain an Action for power available to one or more of the loop stop valve operators and, in this condition, LCO 3.0.3 would be entered. ITS 3.4.17 requires that when power is available to one or more loop isolation valve operators that the power must be removed within 30 minutes. The Actions are modified by a Note that states that separate condition entry is allowed for each RCS loop isolation valve. If power is not removed within 30 minutes, LCO 3.0.3 would be entered. This changes the CTS by allowing 30 minutes per isolation valve to remove power from the isolation valve operator before entering LCO 3.0.3.

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. Allowing 30 minutes to remove power from the isolation valve operators does not significantly increase the likelihood that a loop isolation valve will inadvertently close. Requiring a plant shutdown under LCO 3.0.3 when the valves are open is initiating a plant transient that is not warranted by the safety significance of the situation. Allowing 30 minutes to remove power from the valve operator is sufficient considering the complexity of the task. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

UNIT 1

ITS 3.4.18

A.1

08-25-00

REACTOR COOLANT SYSTEM

ISOLATED LOOP

when opening the loop isolation valves

ITS 3.4.18.a.1

LIMITING CONDITION FOR OPERATION

3.4.1.4 The boron concentration of an isolated loop shall be ~~maintained~~ greater than or equal to the boron concentration corresponding to the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2 as applicable for the active volume of the Reactor Coolant System, unless the loop has been drained for maintenance. L.1

Appl.

APPLICABILITY: MODES ~~3, 4 and~~ 5. and 6 A.2

Action A.1

ACTION:

With the requirements of the above specification not satisfied, ~~do not open~~ close the isolated loop's stop valves; ~~either increase the boron concentration of the isolated loop to within the limits within 4 hours or borate the unisolated portion of the RCS to a SHUTDOWN MARGIN equivalent to at least 1.77% Δk/k at 200°F within the next 6 hours.~~ L.1

SURVEILLANCE REQUIREMENTS

SR 3.4.18.2

4.4.1.4 The boron concentration of an isolated, undrained loop shall be determined to be greater than or equal to the boron concentration corresponding to the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2 as applicable for the active volume of the Reactor Coolant System ~~at least once per 24 hours and~~ within 1 hour prior to opening either the hot leg or cold leg stop valves of an isolated loop. L.1

Or the boron concentration of LCO 3.9.1

A.2

page 1 of 4

Rev. 0

A.1

REACTOR COOLANT SYSTEM

ISOLATED LOOP STARTUP - FILLED

ITS

LIMITING CONDITION FOR OPERATION

LCO 3.4.18.a.2 SR 3.4.18.3

3.4.1.5 A reactor coolant loop cold leg stop valve on an undrained loop shall remain closed with A.C. power removed ~~and its breaker locked open~~* unless: L.3

a. The isolated loop has been operating on a recirculation flow of greater than or equal to 125 gpm for at least 90 minutes and the temperature at the cold leg of the isolated loop is within 20°F of the highest cold leg temperature of the operating loops, and

~~b. The reactor is subcritical by at least 1.77 percent Δk/k, or~~ A.3

c. The loop is being backfilled in accordance with Specification 3.4.1.6.

LCO 3.4.18.b

APPLICABILITY: MODES ~~3, 4,~~ 5 and 6. A.2

Appl.

ACTION: Close the cold leg isolation valve immediately A.4

Action B.1

Action C.1

With the requirements of the above specification not satisfied, ~~suspend startup of the isolated loop.~~ ~~A.C. power shall be removed from the valve and the breaker locked open within 2 hours.~~ M.4 L.3

SURVEILLANCE REQUIREMENTS

SR 3.4.18.1

4.4.1.5.1 The isolated loop cold leg temperature shall be determined to be within 20°F of the highest cold leg temperature of the operating loops within 30 minutes prior to opening the cold leg stop valve.

~~4.4.1.5.2 The reactor shall be determined to be subcritical by at least 1.77 percent Δk/k within 30 minutes prior to opening the cold leg stop valve.~~ A.3

Insert proposed SR 3.4.18.3 M.5

M.2

hot or

the loop shall be isolated. M.1

LCO NOTE

* A cold leg stop valve in a reactor coolant loop may be closed for up to two hours for valve maintenance or testing. If the stop valve is not opened within two hours, ~~A.C.~~ ~~power shall be removed from the valve and the breaker locked open.~~ A.5 L.3

Rev 0

A.1

REACTOR COOLANT SYSTEM

ISOLATED LOOP STARTUP - DRAINED

LIMITING CONDITION FOR OPERATION

ITS

3.4.1.6 Whenever a reactor coolant loop is isolated and drained, A.C. power shall be removed from the loop stop valves ~~and the associated breakers locked open~~. When returning an isolated drained loop to service the following conditions shall be met: L.3

LCO 3.4.18.5 NOTE

a. Seal injection may be initiated to the reactor coolant pump in the isolated loop provided that:

1. The isolated loop is drained.

2. The boron concentration of the reactor coolant pump seal injection source is ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode.

LCO 3.4.18.5

b. The cold leg stop valves may be energized and/or opened to fill the loop from the active volume of the Reactor Coolant System provided that:

1. The isolated loop is drained or reactor coolant pump seal injection has been initiated in accordance with Specification 3.4.1.6.a above.

LCO 3.4.18.6.1

2. Pressurizer water ~~volume is ≥ 450 cubic feet~~ level ≥ 32 % A.6

3. ~~A source range neutron flux monitor is operable.~~ A.8

c. Backfilling of the isolated loop ~~may continue~~ provided that: A.6

LCO 3.4.18.6.1

1. Pressurizer water ~~volume~~ level shall be maintained ~~at or above 450 cubic feet~~ ≥ 32 %.

2. ~~The source range neutron flux count rate is no more than a factor of 2 above the initial count rate.~~ L.4

LCO 3.4.18 NOTE

3. The boron concentration of the reactor coolant pump seal injection source is ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode.

d. When the isolated loop is full the loop stop valves can be fully opened provided that:

SR 3.4.18.7

1. The boron concentration in the loop is ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode.

LCO 3.4.18.6.2

2. The hot and cold leg stop valves are fully opened within 2 hours after the backfill of the isolated loop has been completed.

Appl.

APPLICABILITY: MODES 5 and 6.

ACTION:

SR 3.4.18.4

a. If the isolated loop is not drained then it must be fully drained before initiating seal injection to the reactor coolant pump in the loop or initiating backfill.

REACTOR COOLANT SYSTEM

ISOLATED LOOP STARTUP - DRAINED

ITS

LIMITING CONDITION FOR OPERATION

ACTION: (Continued) A.6

Action D

b. If the pressurizer water ~~volume~~ level is not maintained ~~at 450 cubic feet or greater~~ ≥ 32 % then the loop stop valves on the loop being backfilled shall be closed. ~~(A.C. power shall be removed from the loop stop valves and the breakers locked open.~~ A.7 L.3

Action D

c. If the boron concentration of the RCP seal injection makeup source is not maintained ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode, then the loop stop valve on the loop being backfilled shall be closed ~~and the loop drained or apply Specification 3.4.1.4 or 3.4.1.5~~ isolated. A.9

d. ~~If the source range count rate increases by a factor of two over the initial count rate, then the hot and cold leg loop stop valves shall be reclosed, power removed from the breakers and the breakers locked open. No attempt shall be made to reopen the loop stop valves until the reason for the count rate increase has been determined.~~ L.4

Action E

e. If the loop stop valves are not fully open within 2 hours after the loop is filled or Surveillance Requirement 4.4.1.6.5 is not met, then the loop shall be isolated ~~and drained or apply Specification 3.4.1.4 and 3.4.1.5~~ A.9

Action F

SURVEILLANCE REQUIREMENTS Insert proposed Action F M.3

SR 3.4.18.4

4.4.1.6.1 The isolated loop shall be verified drained within 2 hours prior to initiating seal injection to the reactor coolant pump in the isolated loop or opening the loop stop valve for backfilling the loop from the Reactor Coolant System.

SR 3.4.18.6

4.4.1.6.2 The pressurizer water ~~volume~~ level shall be verified to be ≥ ~~450 cubic feet~~ 32% at least once per 15 minutes during filling of the isolated loop. A.6

~~4.4.1.6.3 The source range neutron flux monitor shall be demonstrated OPERABLE by performance of:~~

~~a. A CHANNEL FUNCTIONAL TEST within 8 hours prior to commencing isolated loop backfill, and~~

~~b. A CHANNEL CHECK at least once per 15 minutes during backfilling of an isolated loop.~~ L.2

SR 3.4.18.5

4.4.1.6.4 If using blended makeup flow as the source for reactor coolant pump seal injection, the boron concentration shall be verified to be ≥ the boron concentration requirements of TS 3.9.1 or TS 3.1.1.2 for the applicable Mode.

a. Within 1 hour prior to initiating seal injection to the reactor coolant pump in the isolated loop, and

b. once every hour after initiating seal injection to the reactor coolant pump.

SR 3.4.18.7

4.4.1.6.5 The backfilled loop's boron concentration shall be verified to be ≥ the boron concentration requirements of TS 3.9.1 or TS 3.1.1.2 for the applicable Mode within 1 hour prior to fully opening the cold leg loop stop valve or opening the hot leg loop stop valve in the isolated loop.

UNIT 2

A.1

REACTOR COOLANT SYSTEM

ISOLATED LOOP

ITS

LIMITING CONDITION FOR OPERATION

when opening the loop isolation valves

3.4.18.a.1

3.4.1.4 The boron concentration of an isolated loop shall be ~~maintained~~ greater than or equal to the boron concentration corresponding to the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2 as applicable for the active volume of the Reactor Coolant System unless the loop has been drained for maintenance. L.1

App'l

APPLICABILITY: MODES ~~3, 4 and~~ 5. and 6 A.2

Action A.1

ACTION:

With the requirements of the above specification not satisfied, ~~do not open~~ close the isolated loop's stop valves; ~~either increase the boron concentration of the isolated loop to within the limits within 4 hours or borate the unisolated portion of the RCS to a SHUTDOWN MARGIN equivalent to at least 1.77% Δk/k at 200°F within the next 6 hours.~~ L.1

SURVEILLANCE REQUIREMENTS

SR 3.4.18.2

4.4.1.4 The boron concentration of an isolated, undrained loop shall be determined to be greater than or equal to the boron concentration corresponding to the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2 as applicable for the active volume of the Reactor Coolant System ~~at least once per 24 hours and~~ within 1 hour prior to opening either the hot leg or cold leg stop valves of an isolated loop. L.1

Or the boron concentration of LCO 3.9.1

A.2

A.1

10-30-98

REACTOR COOLANT SYSTEM

ISOLATED LOOP STARTUP - FILLED

ITS

LIMITING CONDITION FOR OPERATION

3.4.1.5 A reactor coolant loop cold leg stop valve on an undrained loop shall remain closed with A.C. power removed ~~and its breaker locked open~~* unless: L.3

a. The isolated loop has been operating on a recirculation flow greater than or equal to 125 gpm for at least 90 minutes and the temperature at the cold leg of the isolated loop is within 20°F of the highest cold leg temperature of the operating loops, and

LCO 3.4.18.a.2
SR 3.4.18.3

b. ~~The reactor is subcritical by at least 1.77 percent Δk/k, or~~ A.3

c. The loop is being backfilled in accordance with Specification 3.4.1.6.

LCO 3.4.18.b
Appl.

APPLICABILITY: MODES ~~3, 4,~~ 5 and 6. A.2

ACTION: close the cold leg isolation valve A.4

Action B.1
Action C.1

With the requirements of the above specification not satisfied, ~~suspend startup of the isolated loop.~~ ~~A.C. power shall be removed from the valve and the breaker locked open within 2 hours.~~ M.4 L.3

SURVEILLANCE REQUIREMENTS

SR 4.18.1

4.4.1.5.1 The isolated loop cold leg temperature shall be determined to be within 20°F of the highest cold leg temperature of the operating loops within 30 minutes prior to opening the cold leg stop valve.

~~4.4.1.5.2 The reactor shall be determined to be subcritical by at least 1.77 percent Δk/k within 30 minutes prior to opening the cold leg stop valve.~~ A.3

Insert proposed SR 3.4.18.3 M.5

M.2

hot or

the loop shall be isolated. M.1

LCO Note

* A cold leg stop valve in a reactor coolant loop may be closed for up to two hours for valve maintenance or testing. If the stop valve is not opened within two hours, ~~A.C.~~ ~~power shall be removed from the valve and the breaker locked open~~. A.5 L.3

Rev 0

REACTOR COOLANT SYSTEM

ISOLATED LOOP STARTUP - DRAINED

LIMITING CONDITION FOR OPERATION

LCO 3.4.18.5

3.4.1.6 Whenever a reactor coolant loop is isolated and drained, A.C. power shall be removed from the loop stop valves ~~and the associated breakers locked open~~. When returning an isolated drained loop to service the following conditions shall be met: L.3

a. Seal injection may be initiated to the reactor coolant pump in the isolated loop provided that:

1. The isolated loop is drained.

2. The boron concentration of the reactor coolant pump seal injection source is ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode.

LCO 3.4.18.6

b. The cold leg stop valves may be energized and/or opened to fill the loop from the active volume of the Reactor Coolant System provided that:

1. The isolated loop is drained or reactor coolant pump seal injection has been initiated in accordance with Specification 3.4.1.6.a above.

LCO 3.4.18.5.1

2. Pressurizer water ~~volume is ≥ 450 cubic feet~~ level ≥32%. A.6

3. ~~A source range neutron flux monitor is operable.~~ A.8

c. Backfilling of the isolated loop may continue provided that:

1. Pressurizer water ~~volume~~ level shall be maintained ~~at or above 450 cubic feet~~ ≥32%. A.6

LCO 3.4.18.5.1

2. ~~The source range neutron flux count rate is no more than a factor of 2 above the initial count rate.~~ L.4

3. The boron concentration of the reactor coolant pump seal injection source is ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode.

LCO 3.4.18 NOTE

d. When the isolated loop is full the loop stop valves can be fully opened provided that:

SR 3.4.18.7

1. The boron concentration in the loop is ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode.

LCO 3.4.18.5.2

2. The hot and cold leg stop valves are fully opened within 2 hours after the backfill of the isolated loop has been completed.

Appl.

APPLICABILITY: MODES 5 and 6.

ACTION:

SR 3.4.18.4

a. If the isolated loop is not drained then it must be fully drained before initiating seal injection to the reactor coolant pump in the loop or initiating backfill.

REACTOR COOLANT SYSTEM

ISOLATED LOOP STARTUP - DRAINED

LIMITING CONDITION FOR OPERATION

ITS

ACTION: (Continued) A.6

Action D

b. If the pressurizer water ~~volume~~ level is not maintained ~~at 450 cubic feet or greater~~ ≥ 32%, then the loop stop valves on the loop being backfilled shall be closed. A.C. ~~power shall be removed from the loop stop valves and the breakers locked open~~ L.3 A.7

Action D

c. If the boron concentration of the RCP seal injection makeup source is not maintained ≥ the boron concentration requirements of Specification 3.9.1 or 3.1.1.2 for the applicable Mode, then the loop stop valve on the loop being backfilled shall be ~~closed~~ isolated ~~and the loop drained or apply Specification 3.4.1.4 or 3.4.1.5~~ A.9

d. ~~If the source range count rate increases by a factor of two over the initial count rate, then the hot and cold leg loop stop valves shall be reclosed, power removed from the breakers and the breakers locked open. No attempt shall be made to reopen the loop stop valves until the reason for the count rate increase has been determined.~~ L.4

Action E

e. If the loop stop valves are not fully open within 2 hours after the loop is filled or Surveillance Requirement 4.4.1.6.5 is not met, then the loop shall be isolated ~~and drained or apply Specification 3.4.1.4 and 3.4.1.5~~ A.9

Action F

SURVEILLANCE REQUIREMENTS Insert proposed Action F M.3

SR 3.4.18.4

4.4.1.6.1 The isolated loop shall be verified drained within 2 hours prior to initiating seal injection to the reactor coolant pump in the isolated loop or opening the loop stop valve for backfilling the loop from the Reactor Coolant System.

SR 3.4.18.6

4.4.1.6.2 The pressurizer water ~~volume~~ level shall be verified to be ≥ ~~450 cubic feet~~ 32% at least once per 15 minutes during filling of the isolated loop. A.6

~~4.4.1.6.3 The source range neutron flux monitor shall be demonstrated OPERABLE by performance of:~~

~~a. A CHANNEL FUNCTIONAL TEST within 8 hours prior to commencing isolated loop backfill, and~~

~~b. A CHANNEL CHECK at least once per 15 minutes during backfilling of an isolated loop.~~ L.2

SR 3.4.18.5

4.4.1.6.4 If using blended makeup flow as the source for reactor coolant pump seal injection, the boron concentration shall be verified to be ≥ the boron concentration requirements of TS 3.9.1 or TS 3.1.1.2 for the applicable Mode.

a. Within 1 hour prior to initiating seal injection to the reactor coolant pump in the isolated loop, and

b. once every hour after initiating seal injection to the reactor coolant pump.

SR 3.4.18.7

4.4.1.6.5 The backfilled loop's boron concentration shall be verified to be ≥ the boron concentration requirements of TS 3.9.1 or TS 3.1.1.2 for the applicable Mode within 1 hour prior to fully opening the cold leg loop stop valve or opening the hot leg loop stop valve in the isolated loop.

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 3.4.1.4 provides requirements on the boron concentration of an isolated loop in MODES 3, 4 and 5. CTS 3.4.1.5 provides requirements on opening a cold leg stop valve in all MODES. ITS 3.4.18 provides requirements on the startup of an isolated loop and is applicable in MODES 5 and 6. ITS 3.4.18 also refers to the minimum boron concentration requirements in MODE 6 imposed by LCO 3.9.1.

This change is acceptable because the condition the Specifications control is only allowed in MODES 5 and 6. ITS 3.4.17 requires the RCS loop isolation valves to be open with power removed to the valve operator in MODES 1, 2, 3, and 4. Therefore, requirements on the startup of an inactive loop are not applicable in those MODES. Referencing the boron concentration requirements in LCO 3.9.1 is necessary because the CTS LCO 3.1.1 and 3.1.2 do not apply in MODE 6. LCO 3.9.1 provides an equivalent requirement in MODE 6. This change has been designated as administrative as it is editorial resulting from changes justified in other specifications.

A.3 CTS 3.4.1.5 states, in part, that a reactor coolant loop cold leg stop valve shall remain closed until the reactor is subcritical by at least 1.77% $\Delta k/k$. ITS 3.4.18 does not contain this requirement.

This change is acceptable because the shutdown margin requirement in CTS 3.4.1.5 is redundant. ITS 3.4.18 is applicable in MODES 5 and 6 with RCS loop(s) isolated. CTS 3.1.1.2 and ITS 3.1.1 require the shutdown margin to be $\geq$ 1.77% $\Delta k/k$ when in MODE 5. CTS 3.9.1 and ITS 3.9.1 require the reactor to be shutdown by greater than 1.77% $\Delta k/k$ when in MODE 6. Therefore, the CTS 3.4.1.5 shutdown margin requirement is redundant to these other, more broadly applicable, specifications and is not needed. Changes to CTS 3.1.1.2 or CTS 3.9.1 will be addressed in the DOCs for those Specifications. This change is designated as administrative as it eliminates a redundant requirement from the CTS.

A.4 CTS 3.4.1.5 states that a reactor coolant loop cold leg stop valve shall remain closed until certain requirements are met. The CTS 3.4.1.5 Action states that with the requirements of the specification not satisfied, suspend startup of the isolated loop. ITS 3.4.18, Action C.1, states that with the isolated loop hot or cold leg isolation

valve open with LCO requirements not met, close the cold leg isolation valve immediately.

This change is acceptable because the actions taken if the LCO is not met have not changed. Actions are only entered if the LCO is not met. In order for the CTS 3.4.1.5 LCO, which states, "a reactor coolant loop cold leg stop valve shall remain closed until ..." to not be met, the cold leg stop valve must be opened without meeting the requirements in the LCO. The action taken under the CTS to "suspend startup of the isolated loop" is to immediately close the cold leg isolation valve, which is the same action required by the ITS in this condition. This change is designated as administrative as it does not result in a technical change to the specifications.

A.5 The LCO Note to CTS LCO 3.4.1.5 states that if a cold leg stop valve is closed for maintenance or testing and not reopened with 2 hours, A.C. power is to be removed from the valve and the breaker locked open. This changes the CTS by not requiring that A.C. power be removed from the valve. The change regarding locking the breaker open is discussed in DOC L.3.

This change is acceptable because the CTS requirement to remove A.C. power from the valve operator is located in the ITS LCO. The ITS LCO requires each isolated loop to remain isolated with power removed from the valve operators. The ITS LCO Note requires the loop to be isolated. Therefore, the ITS LCO Note and the LCO require the loop to be isolated and power to be removed from the valve operators. This change is designated as administrative because it does not result in a technical change to the specifications.

A.6 CTS LCO 3.4.1.6 requires that the pressurizer water volume be at least 450 cubic feet prior to filling a drained, isolated loop from the active volume of the RCS. CTS Action b addresses this limit not being met and Surveillance 4.4.1.6.2 verifies this volume. ITS LCO 3.4.18 requires pressurizer level to be ≥ 32%. Action C addresses the condition of this pressurizer level not being met and SR 3.4.18.6 verifies this level is met. This changes the CTS by substituting an equivalent pressurizer level for the pressurizer volume contained in the CTS.

This change is acceptable because there is no direct indication of pressurizer water volume in the Control Room. Pressurizer water volume is calculated from the pressurizer level. Under the conventions of the ITS, values such as this should be in the units measured in the Control Room, including applicable uncertainties. This change is designated as administrative because they do not result in technical changes to the specifications.

A.7 CTS 3.4.1.6, Action b, states that if pressurizer water volume is not maintained above the limit, the loop stop valves must be closed. Action b also requires that A.C. power be removed from the loop stop valves and the breakers be locked open. ITS 3.4.18, Action D applies in the same circumstance and requires that the isolation valves be

closed. This changes the CTS by not requiring that A.C. power be removed from the valve. The change regarding locking the breaker open is discussed in DOC L.3.

This change is acceptable because the CTS requirement to remove A.C. power from the valve operator is located in the ITS LCO. The ITS LCO requires each isolated loop to remain isolated with power removed from the valve operators. The ITS Action requires the loop to be isolated. Therefore, the ITS Action and the LCO require the loop to be isolated and power to be removed from the valve operators. This change is designated as administrative because it does not result in a technical change to the specifications.

A.8 CTS 3.4.1.6.a.3 requires a source range neutron flux monitor to be OPERABLE in MODES 5 and 6 during the filling of an isolated and drained portion of the RCS from the active RCS volume. The ITS does not contain this requirement.

This change is acceptable because a source range neutron flux monitor is required to be OPERABLE in MODES 5 and 6 by other Specifications in the ITS. ITS 3.3.1, Table 3.3.1-1, Item 5, requires a source range neutron flux monitor be OPERABLE in MODE 5 (both with and without the reactor trip breakers open) and ITS 3.9.3 requires two source range neutron flux monitors to be OPERABLE in MODE 6. Therefore, the CTS requirement is duplicative and unnecessary. This change is designated as administrative because it does not result in a technical change to the specifications.

A.9 CTS 3.4.1.6, Action c and e state if the requirement is not met, the loop shall be isolated and drained or apply Specification 3.4.1.4 and 3.4.1.5. ITS 3.4.18, Action E, applies in the same conditions and states the valves are to be closed immediately. This changes the CTS by eliminating the requirement that the loop be drained or Specifications 3.4.1.4 and 3.4.1.5 be applied.

This change is acceptable because the requirements have not been changed. Under the CTS, once a loop is isolated the requirements of Specification 3.4.1.4, 3.4.1.5, or 3.4.1.6 apply. Under the ITS, once a loop is isolated, the requirements of 3.4.18 apply. CTS 3.4.1.4, 3.4.1.5, and 3.4.1.6 describe the controls on starting a loop, as does ITS 3.4.18. Therefore, the requirements have not changed except as described in other DOCS for ITS 3.4.18. This change is designated as administrative because it does not result in a technical change to the specifications.

MORE RESTRICTIVE CHANGES

M.1 CTS LCO 3.4.1.5 contains a Note which states, "A cold leg stop valve in a reactor coolant loop may be closed for up to two hours for valve maintenance or testing. If the stop valve is not opened within two hours, A.C. power shall be removed from the valve and the breaker locked open." ITS LCO 3.4.18 contains a Note which states, "A hot or cold leg isolation valve may be closed for up to two hours for valve

maintenance or testing. If the isolation valve is not opened within 2 hours, the loop shall be isolated." This changes the CTS by expanding the application of the Note to either a hot or cold leg isolation valve and to require that the loop be isolated if the valve is not opened within two hours. The requirement to lock open the valve breaker is discussed in DOC L.3. The change to allow a hot or cold leg isolation valve to be opened is discussed in DOC M.2.

The purpose of the Note is to allow a single isolation on a loop valve to be closed for a short period of time for maintenance or testing. The time that a valve can be closed is limited so that temperature or boron concentration differences will not develop between the RCS and the portion of the RCS loop behind the closed valve. If the valve is not opened within two hours, the conditions in the LCO must be followed when unisolating the loop. This change is acceptable because requiring that a single isolation valve remain closed does not ensure that differences between the active and isolated portions of the RCS will not develop. If the allowed time expires, closing both isolation valves ensures that water with a different temperature or lower boron concentration does not mix with the active RCS volume. The ITS requirements will apply during the startup of an isolated loop. Once the loop is isolated, the ITS LCO requires that power be removed from the valve operator. This change is designated as more restrictive because it requires a loop to be isolated by closing both isolation valves instead of closing only one isolation valve.

M.2 The CTS LCO 3.4.1.5 note allows a cold leg stop valve to be closed for up to two hours for maintenance or testing. The ITS LCO 3.4.18 Note allows a hot or cold leg isolation valve to be closed for maintenance or testing. This changes the CTS by placing a time limit on how long a hot leg isolation valve can be closed under the conditions of the Note.

The purpose of this note is to allow a single isolation valve to be closed for a short period of time for maintenance or testing and then be reopened without complying with the LCO conditions and Surveillances. The time must be limited because closing one valve creates a "dead leg" which could develop a different temperature or boron concentration than the rest of the RCS. This concern applies equally to a hot or cold leg isolation valve. This change is acceptable because it applies appropriate remedial actions to failure to open a closed isolation valve within the specified time. This change is designated as more restrictive because it places a time limit on how long a hot leg isolation valve can be closed when no time limit is applied by the CTS.

M.3 CTS LCO 3.4.1.5 and LCO 3.4.1.6 require closed loop isolation valves to have A.C. power removed. There is not a CTS Action for the condition of A.C. power not removed from a closed isolation valve, but CTS 3.4.1.5, Action, allows two hours to remove power from an isolation valve and lock open the breaker. As CTS LCO 3.0.3 is not applicable in MODES 5 and 6, failure to remove power from the operator of a closed isolation valve would result in no required actions. ITS 3.4.18, Action F, applies in the condition of power not removed from the operator of a closed isolation

valve when the conditions of LCO 3.4.18.a.1 or LCO 3.4.18.b.1 are not met and requires power to be removed within 30 minutes. This changes the CTS by applying a time limit on action to remove power from a valve operator. The change to the CTS 3.4.1.5 Action is discussed in DOC M.4.

This change is acceptable because it applies a reasonable time to perform the action of removing power from a valve operator while limiting the risk of inadvertent opening of the valve when the RCS conditions for valve opening are not met. The 30 minutes allowed to remove power from the valve is the same as the time allowed to remove power from a loop isolation valve in ITS 3.4.17, Action A. This change is designated as more restrictive because it applies a time limit for action when no time limit is applied in the CTS.

M.4 CTS 3.4.1.5 Action states that if the requirements on opening a cold leg stop valve on an undrained loop are not met, the startup of the isolated loop is to be suspended. The Action also requires that A.C. power be removed from the loop stop valves and the breakers be locked open within 2 hours. ITS 3.4.18, Action B applies in the same circumstance and requires that the cold leg isolation valve be closed. ITS 3.4.18, Action F, states that if power is not removed from a closed isolation valve when the conditions of LCO 3.4.18.a.1 or 3.4.18.b.1 are not met, power must be removed within 30 minutes. This changes the CTS by reducing the time available to remove A.C. power from the valve operator from 2 hours to 30 minutes. Other changes are discussed in DOCS L.3 and A.4.

This change is acceptable because 30 minutes is sufficient time to remove A.C. power from the loop isolation valve operator. ITS 3.4.17, Action A, requires that open loop isolation valves with power inadvertently applied to the valve operators have power removed within 30 minutes. This change is designated as more restrictive because the ITS allows less time to complete an Action than does the CTS.

M.5 CTS 3.4.1.5.a requires the isolated loop to have been operating on recirculation flow greater than or equal to 125 gpm for at least 90 minutes before opening the cold leg isolation valve. ITS 3.4.18.a.2 contains the same recirculation requirement. ITS SR 3.4.18.3 requires verification that the recirculation requirements is met within 30 minutes prior to opening the cold leg isolation valve.

This change is acceptable because it provides verification that the recirculation assumed by the accident analysis has occurred before opening the cold leg loop isolation valve. The time limit of 30 minutes ensures that the isolated loop temperature or boron concentration has not changed significantly before opening the cold leg loop isolation valve. This change is designated as more restrictive because a Surveillance is added to the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 1 - Relaxation of LCO Requirements)* CTS 3.4.1.4 states that the boron concentration of an isolated loop is to be maintained greater than equal to the boron concentration corresponding to the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2 as applicable for the active volume of the Reactor Coolant System unless the loop has been drained for maintenance. CTS 3.4.1.4 Action contains the actions to be taken when the loop isolation valves are closed but the boron concentration of the isolated loop is less than required. CTS Surveillance 4.4.1.4 requires that the boron concentration of the isolated loop must be verified to be within limits at least once per 24 hours. ITS 3.4.18 states that the hot and cold leg isolation valves of a filled, isolated loop must remain closed if the boron concentration of the isolated loop is less than the boron concentration required to meet the SDM of LCO 3.1.1 or the boron concentration of LCO 3.9.1. If the loop isolation valves are opened without the isolated loop boron concentration requirement being met, the loop isolation valves must be closed. This changes the CTS LCO requirement (and the corresponding Action and Surveillance) by eliminating the ongoing requirement that the boron concentration of an isolated loop be equal to or greater than the concentration of the operating loops unless the loop has been drained for maintenance and applying requirements on boron concentration only when a loop isolation valve is to be opened. The addition to reference to LCO 3.9.1 is addressed in DOC A.2.

This change is acceptable because the LCO requirements continue to ensure that the RCS boron concentration is maintained consistent with the safety analyses and licensing bases. The requirement to maintain the isolated loop boron concentration greater than that required to meet the SDM requirement is not necessary unless the loop isolation valves are going to be opened. Hardware interlocks on the loop isolation valves, Technical Specifications, and operating procedures control the opening of loop isolation valves to ensure that the isolated loop boron concentration is greater than or equal to the operating loops boron concentration prior to opening the isolation valves. As long as the isolation valves are closed, the boron concentration of the isolated loop has no safety significance. As a result, maintaining the boron concentration of the isolated loop greater than a particular limit is not necessary. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.2 *(Category 5 - Deletion of Surveillance Requirement)* CTS Surveillance 4.4.1.6.3 requires that the source range neutron flux monitor be demonstrated OPERABLE by a CHANNEL FUNCTIONAL TEST within 8 hours prior to commencing isolated loop backfill and a CHANNEL CHECK at least once per 15 minutes during backfilling of an isolated loop. ITS 3.4.18 does not contain these requirements. This changes the CTS by eliminating a CHANNEL FUNCTIONAL TEST and periodic CHANNEL CHECKS from the process of backfilling a drained loop from the active RCS volume.

The purpose of CTS Surveillance 4.4.1.6.3 is to ensure that the source range neutron flux monitors are OPERABLE before and during the backfilling of a drained, isolated loop from the RCS volume. This change is acceptable because the deleted Surveillance Requirements are 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. ITS 3.3.1 requires a CHANNEL CHECK of the source range neutron flux monitors every 12 hours in MODE 5 and ITS SR 3.9.3.1 requires a CHANNEL CHECK every 12 hours in MODE 6. ITS 3.3.1 requires a CHANNEL OPERATIONAL TEST in MODE 5 with the RTBs closed every 92 days. These tests are determined sufficient to demonstrate the OPERABILITY of the source range neutron flux under all other evolutions performed in MODES 5 and 6 and backfilling a drained, isolated loop from the RCS active volume does nothing to invalidate the tests. This change Is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L.3 *(Category 1 - Relaxation of LCO Requirements)* CTS LCO 3.4.1.5 and CTS LCO 3.4.1.6 require that the stop valves remain closed with A.C. power removed and its breaker locked open unless certain conditions are satisfied. The CTS LCO 3.4.1.5 Note *, CTS 3.4.1.5 Action, and CTS 3.4.1.6 Actions b and d also specify that A.C. power be removed from the valve(s) and the breaker locked open. ITS 3.4.18 and ITS 3.4.18 Action F state that an RCS loop shall remain isolated with power removed from the valve unless certain conditions are satisfied. This changes the CTS by removing the LCO requirement (and corresponding Action and Notes requirements) that the isolation valve breaker be locked open.

The purpose of the CTS requirements is to ensure that the isolation valves are not inadvertently opened. This is accomplished by requiring A.C. power be removed from the valve operators. The CTS goes on to specify how A.C. power is to be removed from the valve operators. This change is acceptable because the LCO requirements continue to ensure that the RCS isolation valves are maintained consistent with the safety analyses and licensing basis. It is not necessary for the Technical Specifications to state how a requirement is met. The method of ensuring that A.C. power is removed from the valve operators is a detail that is not necessary to be in the Technical Specifications in order to ensure that the isolation valves are deenergized. This change is designated as less restrictive removal because less

stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.4 *(Category 1 - Relaxation of LCO Requirements)* CTS 3.4.1.6.c.2 states that the source range neutron flux count rate shall be no more that a factor of 2 above the initial count rate during the filling of a drained RCS loop from the active volume of the RCS. CTS 3.4.1.6 Action d, states that if the source range count rate increase by a factor to two over the initial count rate, then the loop stop valves must be closed, power removed, and the breakers locked open. Furthermore, it states that no attempt shall be made to reopen the loop stop valves until the reason for the count rate increase has been determined. The ITS does not contain these requirements. This changes the CTS by eliminating the requirement to maintain count rate a less than twice the initial count rate and the corresponding Action.

The purpose of this change is to ensure that no undetected core reactivity changes occur during the filling of an isolated loop from the active portion of the RCS. The CTS and ITS require verification of boron concentration and temperature and that the loop is drained of water before filling is allowed to proceed. This change is acceptable because the LCO requirements continue to ensure that the process variables are maintained consistent with the safety analyses and the licensing basis. In addition, prudent operating practice dictates that an unexplained doubling of source range count rate would result in halting the evolution and determination of the cause prior to proceeding. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

UNIT 1

A.1

SPECIAL TEST EXCEPTIONS

REACTOR COOLANT LOOPS

ITS 3.4.19

LIMITING CONDITION FOR OPERATION

3.10.4 The limitations of Specification ~~3.4.1.1~~ 3.4.4 may be suspended during the performance of startup and PHYSICS TESTS provided: A.1

a. The THERMAL POWER does not exceed the P-7 Interlock Setpoint,

b. ~~The Reactor Trip Setpoints on the OPERABLE Intermediate Range Channels are set at less than or equal to 35% of RATED THERMAL POWER, and~~

c. ~~The Reactor Trip Setpoints on the OPERABLE Power Range Channels are set at less than or equal to 25% of RATED THERMAL POWER.~~ A.4

Appl. APPLICABILITY: ~~During operation below the P-7 Interlock Setpoint.~~ MODES 1 and 2 during startup and PHYSICS TESTS A.2

ACTION: ACTION A

With the THERMAL POWER greater than the P-7 Interlock Setpoint, immediately open the reactor trip breakers.

SURVEILLANCE REQUIREMENTS

SR 3.4.19.1 4.10.4.1 The THERMAL POWER shall be determined to be less than P-7 Interlock Setpoint at least once per hour during startup and PHYSICS TESTS.

SR 3.4.19.2 4.10.4.2 Each Intermediate, Power Range Channel and P-7 Interlock shall be subjected to a CHANNEL ~~FUNCTIONAL~~ OPERATIONAL TEST ~~within 12 hours~~ prior to initiating startup or PHYSICS TESTS. L.1 A.3

UNIT 2

SPECIAL TEST EXCEPTIONS

REACTOR COOLANT LOOPS

ITS

LIMITING CONDITION FOR OPERATION

A.1

3.4.19

3.10.4 The limitations of Specification ~~3.4.1.1~~ 3.4.4 may be suspended during the performance of startup and PHYSICS TESTS provided:

a. The THERMAL POWER does not exceed the P-7 Interlock Setpoint,

b. ~~The reactor trip setpoints on the OPERABLE Intermediate Range Channels are set at less than or equal to 35% of RATED THERMAL POWER, and~~

c. ~~The reactor trip setpoints on the OPERABLE Power Range Channels are set at less than or equal to 25% of RATED THERMAL POWER.~~

A.4

Appl.

APPLICABILITY: ~~During operation below the P-7 Interlock Setpoint.~~ MODES 1 and 2 during startup and PHYSICS TESTS

A.2

ACTION A

ACTION:

With the THERMAL POWER greater than the P-7 Interlock Setpoint, immediately open the reactor trip breakers.

SURVEILLANCE REQUIREMENTS

SR 3.4.19.1

4.10.4.1 The THERMAL POWER shall be determined to be less than P-7 Interlock Setpoint at least once per hour during startup and PHYSICS TESTS.

SR 3.4.19.2

4.10.4.2 Each Intermediate, Power Range Channel and P-7 Interlock shall be subjected to a CHANNEL ~~FUNCTIONAL~~ OPERATIONAL TEST ~~within 12 hours~~ prior to initiating startup or PHYSICS TESTS.

L.1

A.3

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 3.10.4 is applicable during operation below the P-7 Interlock Setpoint. LCO 3.4.19 is applicable in MODES 1 and 2 during startup and PHYSICS TESTS.

The purpose of CTS 3.10.4 is to allow all Reactor Coolant Pumps (RCPs) to be stopped while at low reactor power to allow natural circulation testing. LCO 3.4.19 serves the same purpose. This testing is performed with reactor power less than 10% RTP to ensure that the fuel design limits are not exceed. Should power exceed the P-7 Interlock Setpoint (10% RTP), a low flow reactor trip signal (which is bypassed below the P-7 setpoint) would open the reactor trip circuit breakers and the reactor would be shutdown. This change is acceptable because the Applicability of CTS 3.10.4 and ITS LCO 3.4.19 serve the same purpose. Both allow the testing to be performed. However, the CTS 3.10.4 Applicability could be interpreted to be in conflict with the Action. Specifically, should reactor power exceed the P-7 Interlock Setpoint, the CTS Applicability is exited, and the Condition of the Action, power greater than P-7, is never entered. The ITS Applicability, MODE 1 and 2 during startup and PHYSICS TESTS, allows the appropriate Action to be entered should power exceed the P-7 Interlock Setpoint. This is how the CTS Action is currently interpreted and implemented. This change is designated as administrative as it is a clarification of the current understanding of a requirement.

A.3 CTS 4.10.4.2 requires that a CHANNEL FUNCTIONAL TEST be performed on each Intermediate and Power Range channel and P-7 Interlock. ITS SR 3.4.19.2 requires that a CHANNEL OPERATIONAL TEST be performed on that equipment.

This change is acceptable because, for this equipment, a CTS CHANNEL FUNCTIONAL TEST and an ITS CHANNEL OPERATIONAL TEST are the same. The ITS renamed the CHANNEL FUNCTIONAL TEST to CHANNEL OPERATIONAL TEST and separated some of the functions to other definitions. That separation does not affect this change. Therefore, this change is editorial. The change is designated as administrative as it changes the name of a test with no change in intent.

A.4 CTS 3.10.4 states that the limitations of Specification 3.4.1.1 may be suspended during the performance of startup and PHYSICS TESTS provided the THERMAL

POWER does not exceed the P-7 Interlock Setpoint and the Reactor Trip Setpoints on the OPERABLE Intermediate and Power Range Channels are set ≤ 35% and ≤ 25% of RATED THERMAL POWER, respectively. ITS 3.4.19 states that the requirement of LCO 3.4.4, "RCS Loops - MODES 1 and 2," may be suspended with THERMAL POWER < P-7. This changes the CTS by eliminating the requirement that the Reactor Trip Setpoints on the OPERABLE Intermediate and Power Range Channels are set ≤ 35% and ≤ 25% of RATED THERMAL POWER, respectively.

This change is acceptable because the Reactor Trip Setpoints on the OPERABLE Intermediate and Power Range Channels are contained in LCO 3.3.1, RTS Instrumentation. Repeating that requirement in this LCO is unnecessary. This change is designated administrative as it eliminates a repeated requirement from the CTS, resulting in no technical change to the Technical Specifications.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L.1 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS 4.10.4.2 requires that tests be performed on each Intermediate and Power Range channel and P-7 Interlock within 12 hours prior to initiating startup or PHYSICS TESTS. ITS SR 3.4.19.2 requires that the testing be performed prior to initiation of startup and PHYSICS TESTS. This changes the CTS by eliminating the time period prior to initiation of startup and PHYSICS TESTS within which the testing must be performed.

The purpose of CTS 3.10.4 and ITS 3.4.19 is to allow the performance of natural circulation testing on the reactor. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The performance of the normally scheduled CHANNEL OPERATIONAL TEST is sufficient to ensure the equipment is OPERABLE. LCO 3.3.1 requires a CHANNEL OPERATIONAL TEST on the

Intermediate and Power Range channels every 92 days (SR 3.3.1.7 and SR 3.3.1.8) and on the P-7 Interlock every 18 months (SR 3.3.1.18). These Frequencies have been determined to be sufficient for verification that the equipment is working properly. The initiation of startup and PHYSICS TESTS does not affect the ability of the equipment to perform its function, does not affect the trip setpoints or the RTS trip capability and does not invalidate the previous surveillances. Therefore, requiring this testing to be performed at a fixed time before the initiation of startup and PHYSICS TESTS has no benefit. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

UNIT 1

REACTOR COOLANT SYSTEM

PRIMARY TO SECONDARY LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.3 Primary to secondary leakage shall be limited to:

a. Total leakage from all steam generators of 300 gpd,

b. Leakage from an individual steam generator of 100 gpd,

c. Total leakage increase of 60 gpd between surveillance intervals, and

d. An increasing trend based on the latest surveillance that indicates 100 gpd would not be exceeded on an individual steam generator within 90 minutes.

APPLICABILITY: MODE 1 above 50% power.*

ACTION:

a. If the total leakage limit from all steam generators or the leakage limit from any individual steam generator is exceeded, be in HOT STANDBY within the next 6 hours and cold shutdown within the following 30 hours.

b. If the increase in total leakage from all steam generators exceeds 60 gpd between surveillance intervals, reduce power below 50% rated thermal power within 90 minutes.

c. If an increasing trend indicates that the limit of 100 gpd per steam generator is going to be exceeded within 90 minutes, reduce power to below 50% rated thermal power within 90 minutes, be in HOT STANDBY within the next 6 hours and cold shutdown within the following 30 hours.

*Once the limiting condition for operation has been exceeded, the corresponding action must be followed to completion.

SURVEILLANCE REQUIREMENTS

4.4.6.3 Primary to secondary leakage shall be demonstrated to be within each of the above limits by:

a. Primary to secondary leakage will be recorded and trended at least once during each 4 hour interval (e.g., 00:00-04:00, 04:00-08:00, 08:00-12:00, 12:00-16:00, 16:00-20:00, 20:00-24:00) from each OPERABLE N-16 continuous readout and alarm radiation monitoring system and the condenser air ejector exhaust continuous readout and alarm radiation monitor.

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SURVEILLANCE REQUIREMENTS

b. Primary to secondary leakage will be determined from a condenser air ejector grab sample at least every 24 hours.

c. Primary to secondary leakage will be determined from steam generator and reactor coolant liquid samples at least every 72 hours.

d. If the above surveillance operations cannot be performed as specified, the limiting conditions for operation and associated action statements of Specification 3.4.6.4 shall apply.

UNIT 2

CTS 3.4.6.3

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PRIMARY TO SECONDARY LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.3 Primary to secondary leakage shall be limited to:

a. Total leakage from all steam generators of 300 gpd,

b. Leakage from an individual steam generator of 100 gpd,

c. Total leakage increase of 60 gpd between surveillance intervals, and

d. An increasing trend based on the latest surveillance that indicates 100 gpd would not be exceeded on an individual steam generator within 90 minutes.

APPLICABILITY: MODE 1 above 50% power.*

ACTION:

a. If the total leakage limit from all steam generators or the leakage limit from any individual steam generator is exceeded, be in HOT STANDBY within the next 6 hours and cold shutdown within the following 30 hours.

b. If the increase in total leakage from all steam generators exceeds 60 gpd between surveillance intervals, reduce power below 50% rated thermal power within 90 minutes.

c. If an increasing trend indicates that the limit of 100 gpd per steam generator is going to be exceeded within 90 minutes, reduce power to below 50% rated thermal power within 90 minutes, be in HOT STANDBY within the next 6 hours and cold shutdown within the following 30 hours.

*Once the limiting condition for operation has been exceeded, the corresponding action must be followed to completion.

SURVEILLANCE REQUIREMENTS

4.4.6.3 Primary to secondary leakage shall be demonstrated to be within each of the above limits by:

a. Primary to secondary leakage will be recorded and trended at least once during each 4 hour interval (e.g., 00:00-04:00, 04:00-08:00, 08:00-12:00, 12:00-16:00, 16:00-20:00, 20:00-24:00) from each OPERABLE N-16 continuous readout and alarm radiation monitoring system and the condenser air ejector exhaust continuous readout and alarm radiation monitor.

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b. Primary to secondary leakage will be determined from a condenser air ejector grab sample at least every 24 hours.

c. Primary to secondary leakage will be determined from steam generator and reactor coolant liquid samples at least every 72 hours.

d. If the above surveillance operations cannot be performed as specified, the limiting conditions for operation and associated action statements of Specification 3.4.6.4 shall apply.

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3.4.6.3 provides limits on primary to secondary leakage in addition to the limits in CTS 3.4.6.2 and ITS 3.4.13. These additional limits lower the amount of allowed primary to secondary leakage when the reactor is operating above 50% power and were implemented to reduce the probability of a steam generator tube rupture following the Unit 1 steam generator tube rupture event at North Anna Unit 1 on July 15, 1987. The CTS 3.4.6.2 leakage limits were continued to be used in the accident analysis, not the addition limits in CTS 3.4.6.3. The North Anna Units 1 and 2 steam generators have been replaced with models that are not susceptible to the fatigue induced cracks which resulted in the tube rupture. As a result, these additional limits are not needed to lower the probability of a steam generator tube rupture. 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 3.4.6.3 does not meet the 10 CFR 50.92(c)(2)(ii) criteria for inclusion into the ITS.

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

1. The primary to secondary leakage limits are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The primary to secondary leakage limits do not satisfy criterion 1.

2. The more restrictive primary to secondary leakage limits in CTS 3.4.6.2 are 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. The primary to secondary leakage limits do not satisfy criterion 2.

3. The primary to secondary leakage limits are 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. The primary to secondary leakage limits do not satisfy criterion 3.

4. The additional primary to secondary leakage limits are not are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. The operating experience which led to the imposition of the additional primary to secondary leakage limits is no longer applicable following the replacement of the North Anna Units 1 and 2 steam generators. The Company has determined that the primary to secondary leakage limits are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The primary to secondary leakage limits do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the primary to secondary leakage limits LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The primary to secondary leakage 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.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

UNIT 1

CTS 3.4.6.4

R.1

12-12-88

• REACTOR COOLANT SYSTEM

PRIMARY TO SECONDARY LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.4 The following primary to secondary leakage detection systems shall be OPERABLE:

a. One of the two N-16 radiation monitoring systems (either the N-16 continuous readout and alarm radiation monitors on each steam line, or the N-16 continuous readout and alarm radiation monitor on the main steam header),

b. The condenser air ejector exhaust continuous readout and alarm radiation monitor,

c. The capability to obtain and analyze a condenser air ejector exhaust grab sample, and

d. The capability to obtain and analyze a liquid sample from each steam generator and from the RCS.

APPLICABILITY: MODE 1 above 50% power.

ACTION:

a. If both the N-16 radiation monitoring system on each steam line and the N-16 radiation monitoring system on the main steam header are INOPERABLE, increase the frequency of the condenser air ejector grab sample required by Specification 4.4.6.3b to at least once during each 4 hour interval (e.g., 00:00-04:00, 04:00-08:00, 08:00-12:00, 12:00-16:00, 16:00-20:00, 20:00-24:00) and return at least one of the systems to operation within seven days or reduce power to less than 50% within the next four hours.

b. If the condenser air ejector exhaust continuous readout and alarm radiation monitor is INOPERABLE, provided at least one of the N-16 monitoring systems is OPERABLE, increase the frequency of the condenser air ejector grab sample required by Specification 4.4.6.3b to at least once during each 4 hour interval (e.g., 00:00-04:00, 04:00-08:00, 08:00-12:00, 12:00-16:00, 16:00-20:00, 20:00-24:00) and return the system to operation within seven days or reduce power to less than 50% within the next four hours.

c. If the capability to obtain and analyze a condenser air ejector grab sample is lost, provided at least one of the N-16 monitoring systems is OPERABLE and the condenser air ejector exhaust continuous readout and alarm radiation monitor is OPERABLE, restore the capability within seven days or reduce power to less than 50% within four hours.

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R.1

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REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

d. If both N-16 monitoring systems are INOPERABLE and either the condenser air ejector exhaust continuous readout and alarm radiation monitor is INOPERABLE or the capability to obtain and analyze a condenser air ejector exhaust grab sample is lost, reduce power to less than 50% within the next 90 minutes.

e. If the condenser air ejector exhaust continuous readout and alarm radiation monitor is INOPERABLE and the capability to obtain and analyze a condenser air ejector exhaust grab sample is lost, reduce power to less than 50% within the next 90 minutes.

f. If the capability to obtain and analyze a liquid sample from each steam generator and the RCS is lost, increase the frequency of performance of the RCS water inventory balance in T.S. 4.4.6.2.1d to once every 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.4 The N-16 monitors and air ejector exhaust radiation monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Tables 4.4-2a and 4.3-14, respectively.

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TABLE 4.4-2a

PRIMARY TO SECONDARY LEAKAGE DETECTION SYSTEMS SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. N-16 Radiation Monitors				
a. MS Header	S	R	M	1 (>50% Power)
b. MS Lines	S	R	M	1 (>50% Power)

R.1

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UNIT 2

R.1

CTS 3.4.6.4

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REACTOR COOLANT SYSTEM

PRIMARY TO SECONDARY LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.4 The following primary to secondary leakage detection systems shall be OPERABLE:

a. One of the two N-16 radiation monitoring systems (either the N-16 continuous readout and alarm radiation monitors on each steam line, or the N-16 continuous readout and alarm radiation monitor on the main steam header),

b. The condenser air ejector exhaust continuous readout and alarm radiation monitor,

c. The capability to obtain and analyze a condenser air ejector exhaust grab sample, and

d. The capability to obtain and analyze a liquid sample from each steam generator and from the RCS.

APPLICABILITY: MODE 1 above 50% power.

ACTION:

a. If both the N-16 radiation monitoring system on each steam line and the N-16 radiation monitoring system on the main steam header are INOPERABLE, increase the frequency of the condenser air ejector grab sample required by Specification 4.4.6.3b to at least once during each 4 hour interval (e.g., 00:00-04:00, 04:00-08:00, 08:00-12:00, 12:00-16:00, 16:00-20:00, 20:00-24:00) and return at least one of the systems to operation within seven days or reduce power to less than 50% within the next four hours.

b. If the condenser air ejector exhaust continuous readout and alarm radiation monitor is INOPERABLE, provided at least one of the N-16 monitoring systems is OPERABLE, increase the frequency of the condenser air ejector grab sample required by Specification 4.4.6.3b to at least once during each 4 hour interval (e.g., 00:00-04:00, 04:00-08:00, 08:00-12:00, 12:00-16:00, 16:00-20:00, 20:00-24:00) and return the system to operation within seven days or reduce power to less than 50% within the next four hours.

c. If the capability to obtain and analyze a condenser air ejector grab sample is lost, provided at least one of the N-16 monitoring systems is OPERABLE and the condenser air ejector exhaust continuous readout and alarm radiation monitor is OPERABLE, restore the capability within seven days or reduce power to less than 50% within four hours.

CTS 3.4.6.4

R.1

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REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

d. If both N-16 monitoring systems are INOPERABLE and either the condenser air ejector exhaust continuous readout and alarm radiation monitor is INOPERABLE or the capability to obtain and analyze a condenser air ejector exhaust grab sample is lost, reduce power to less than 50% within the next 90 minutes.

e. If the condenser air ejector exhaust continuous readout and alarm radiation monitor is INOPERABLE and the capability to obtain and analyze a condenser air ejector exhaust grab sample is lost, reduce power to less than 50% within the next 90 minutes.

f. If the capability to obtain and analyze a liquid sample from each steam generator and the RCS is lost, increase the frequency of performance of the RCS water inventory balance in T.S. 4.4.6.2.1d to once every 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.4 The N-16 monitors and air ejector exhaust radiation monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Tables 4.4-2a and 4.3-13 respectively.

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TABLE 4.4-2a

PRIMARY TO SECONDARY LEAKAGE DETECTION SYSTEMS SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. N-16 Radiation Monitors				
a. MS Header	S	R	M	1 (>50% Power)
b. MS Lines	S	R	M	1 (>50% Power)

R.1

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CTS 3.4.6.4

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DISCUSSION OF CHANGES
CTS 3.4.6.4 – PRIMARY TO SECONDARY LEAKAGE DETECTION SYSTEMS

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3.4.6.4 states requirements on primary to secondary leakage detection systems. These leakage detection systems are in addition to those systems required by CTS 3.4.6.1 and ITS 3.4.15 and were installed to monitor the stringent primary to secondary leakage limits in CTS 3.4.6.3. These additional primary to secondary leakage detection systems were added to the Technical Specifications following the Unit 1 steam generator tube rupture (SGTR) event at North Anna Unit 1 on July 15, 1987. Subsequently, the North Anna Units 1 and 2 steam generators have been replaced and steam generator primary to secondary leakage is insignificant. As a result, the requirements in ITS 3.4.15 are sufficient to indicate significant abnormal RCS leakage. 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 3.4.6.4 does not meet the 10 CFR 50.92(c)(2)(ii) criteria for inclusion into the ITS.

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

1. The primary to secondary leakage detection systems limits are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The primary to secondary leakage detection systems required by CTS 3.4.6.4 were installed to detect small primary to secondary leakage which, with the original steam generators, could lead to relatively rapid degradation of a steam generator tube leading up to a tube rupture due to fatigue induced cracks. The new North Anna steam generators are not susceptible to this failure mechanism. Therefore, this additional instrumentation is no longer needed to detect the precursor leakage increases which could indicate an incipient significant abnormal degradation of the reactor coolant system boundary. The instrumentation required by ITS 3.4.15 is sufficient to meet this requirement. The primary to secondary leakage detection systems required by CTS 3.4.6.4 do not satisfy criterion 1.

2. The primary to secondary leakage detection systems are 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. The primary to secondary leakage detection systems do not satisfy criterion 2.

3. The primary to secondary leakage detection systems are 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. The primary to secondary leakage detection systems do not satisfy criterion 3.

4. The primary to secondary leakage detection systems are not are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. The operating experience which led to the imposition of the installation of the additional primary to secondary leakage detection systems is not longer applicable following the replacement of the North Anna Units 1 and 2 steam generators. The Company has determined that the primary to secondary leakage detection systems are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The primary to secondary leakage detection systems do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the primary to secondary leakage detection systems LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The primary to secondary leakage detection systems 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.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

UNIT 1

REACTOR COOLANT SYSTEM

3/4.4.7 CHEMISTRY

LIMITING CONDITION FOR OPERATION

3.4.7 The Reactor Coolant System chemistry shall be maintained within the limits specified in Table 3.4-1.

APPLICABILITY: At all times.

ACTION:

MODES 1, 2, 3 and 4

a. With any one or more chemistry parameters in excess of the Steady State Limit but within the Transient Limit, restore the Parameter to within its Steady State Limit within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any one or more chemistry parameters in excess of the Transient Limit, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

At all other times

With the concentration of either chloride or fluoride in the Reactor Coolant System in excess of its Steady State Limit for more than 24 hours or in excess of its Transient Limit, reduce the pressurizer pressure to ≤ 500 psig, if applicable, and perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation prior to increasing the pressurizer pressure above 500 psig or prior to proceeding to MODE 4.

SURVEILLANCE REQUIREMENTS

4.4.7 The Reactor Coolant System chemistry shall be determined to be within the limits by analysis of those parameters at the frequencies specified in Table 4.4-3.

R.1

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TABLE 3.4-1

REACTOR COOLANT SYSTEM

CHEMISTRY LIMITS

PARAMETER	STEADY STATE LIMIT	TRANSIENT LIMIT
DISSOLVED OXYGEN*	≤ 0.10 ppm	≤ 1.00 ppm
CHLORIDE	≤ 0.15 ppm	≤ 1.50 ppm
FLUORIDE	≤ 0.15 ppm	≤ 1.50 ppm

*Limit not applicable with $T_{avg} \leq 250°F$.

R.1

TABLE 4.4-3

REACTOR COOLANT SYSTEM

CHEMISTRY LIMITS SURVEILLANCE REQUIREMENTS

PARAMETER	MINIMUM ANALYSIS FREQUENCIES
DISSOLVED OXYGEN*	At least once per 72 hours
CHLORIDE**	At least once per 72 hours
FLUORIDE**	At least once per 72 hours

* Not required with $T_{avg} \leq 250°F$

** Not required when the Reactor Coolant System is drained below the reactor pressure vessel nozzle and the internals and/or head are in place.

UNIT 2

R.1

REACTOR COOLANT SYSTEM

3/4.4.7 CHEMISTRY

LIMITING CONDITION FOR OPERATION

3.4.7 The Reactor Coolant System chemistry shall be maintained within the limits specified in Table 3.4-2.

APPLICABILITY: At all times.

ACTION:

MODES 1, 2, 3 and 4

a. With any one or more chemistry parameters in excess of the Steady State Limit but within the Transient Limit, restore the parameter to within its Steady State Limit within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any one or more chemistry parameters in excess of the Transient Limit, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

At all other times

With the concentration of either chloride or fluoride in the Reactor Coolant System in excess of its Steady State Limit for more than 24 hours or in excess of its Transient Limit, reduce the pressurizer pressure to less than or equal to 500 psig, if applicable, and perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation prior to increasing the pressurizer pressure above 500 psig or prior to proceeding to MODE 4.

SURVEILLANCE REQUIREMENTS

4.4.7 The Reactor Coolant System chemistry shall be determined to be within the limits by analysis of those parameters at the frequencies specified in Table 4.4-3.

REACTOR COOLANT SYSTEM

TABLE 3.4-2

REACTOR COOLANT SYSTEM

CHEMISTRY LIMITS

PARAMETER	STEADY STATE LIMIT	TRANSIENT LIMIT
DISSOLVED OXYGEN*	≤ 0.10 ppm	≤ 1.00 ppm
CHLORIDE	≤ 0.15 ppm	≤ 1.50 ppm
FLUORIDE	≤ 0.15 ppm	≤ 1.50 ppm

*Limit not applicable with T_{avg} less than or equal to 250°F.

TABLE 4.4-3

REACTOR COOLANT SYSTEM

CHEMISTRY LIMITS SURVEILLANCE REQUIREMENTS

PARAMETER	MINIMUM ANALYSIS FREQUENCIES
DISSOLVED OXYGEN*	At least once per 72 hours
CHLORIDE**	At least once per 72 hours
FLUORIDE**	At least once per 72 hours

* Not required with T_{avg} less than or equal to 250°F

** Not required when the Reactor Coolant System is drained below the reactor pressure vessel nozzle and the internals and/or head are in place.

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3.4.7 provides limits on the oxygen, chloride and fluoride content in the RCS to minimize corrosion. Minimizing corrosion of the RCS will reduce the potential for RCS leakage or failure due to stress corrosion, and ultimately ensure the structural integrity of the RCS. 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 3.4.7 does not meet the 10 CFR 50.92(c)(2)(ii) criteria for inclusion into the ITS.

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

1. The RCS chemistry limits are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The RCS chemistry limits do not satisfy criterion 1.

2. The RCS chemistry limits are 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. The RCS chemistry limits do not satisfy criterion 2.

3. The RCS chemistry limits are 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. The RCS chemistry limits do not satisfy criterion 3.

4. The RCS chemistry limits are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 4.0, (Appendix A, page A-40) of WCAP-11618, the RCS chemistry limits were found to be a non-significant risk contributor to core damage frequency and offsite releases.

The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The RCS chemistry limits are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The RCS chemistry limits do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the RCS chemistry limits LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The RCS chemistry 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.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

UNIT 1

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.9.2 The pressurizer temperature shall be limited to:

a. A maximum heatup of 100°F or cooldown of 200°F in any one hour period, and

b. A maximum spray water temperature and pressurizer temperature differential of 320°F.

APPLICABILITY: At all times.

ACTION:

With the pressurizer temperature limits in excess of any of the above limits restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the fracture toughness properties of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

R.1

SURVEILLANCE REQUIREMENTS

4.4.9.2 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown. The spray water temperature differential shall be determined to be within the limit at least once per 12 hours during auxiliary spray operation.

UNIT 2

8-21-80

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.9.2 The pressurizer temperature shall be limited to:

a. A maximum heatup of 100°F or cooldown of 200°F, in any one hour period, and

b. A maximum spray water temperature and pressurizer temperature differential of 320°F.

APPLICABILITY: At all times.

ACTION:

With the pressurizer temperature limits in excess of any of the above limits, restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of- limit condition on the structural integrity of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

R.1

SURVEILLANCE REQUIREMENTS

4.4.9.2 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown. The spray water temperature differential shall be determined to be within the limit at least once per 12 hours during auxiliary spray operation.

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3.4.9.2 states that the pressurizer temperature shall be limited to a maximum heatup of 100°F or cooldown of 200°F in any one hour period and a maximum spray water temperature and pressurizer temperature differential of 320°F. The pressurizer temperature limits are placed on the pressurizer to prevent non-ductile failure. The limits meet the requirements given in the ASME Boiler and Pressure Vessel Code, Section III, Appendix G. 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 3.4.9.2 does not meet the 10 CFR 50.92(c)(2)(ii) criteria for inclusion into the ITS.

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

1. The pressurizer temperature limits are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The pressurizer temperature limits do not satisfy criterion 1.

2. The pressurizer temperature limits are 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. The pressurizer temperature limits do not satisfy criterion 2.

3. The pressurizer temperature limits are 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. The pressurizer temperature limits do not satisfy criterion 3.

4. The pressurizer temperature limits are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 4.0, (Appendix

A, page A-41) of WCAP-11618, the pressurizer temperature limits were found to be a non-significant risk contributor to core damage frequency and offsite releases. The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The pressurizer temperature limits are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The pressurizer temperature limits do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the pressurizer temperature limits LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The pressurizer temperature limits 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.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

UNIT 1

CTS 3.4.10.1

12-28-79

R.1

REACTOR COOLANT SYSTEM

3/4.4.10 STRUCTURAL INTEGRITY

ASME CODE CLASS 1, 2 & 3 COMPONENTS

LIMITING CONDITION FOR OPERATION

3.4.10.1 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.10.1.

APPLICABILITY: ALL MODES.

ACTION:

a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.

b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.

c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.

d. With any RCP shaft deflection indication greater than 20 mils, the reactor shall be placed in at least HOT STANDBY within 1 hour, the affected RCP(s) tripped and then affected flow straightener plate(s) ultrasonically examined.

e. The provisions of Specification 3.0.4 are not applicable.

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UNIT 2

CTS 3.4.10.1

04-22-98

REACTOR COOLANT SYSTEM

3/4.4.10 STRUCTURAL INTEGRITY

ASME CODE CLASS 1, 2 & 3 COMPONENTS

LIMITING CONDITION FOR OPERATION

3/4.10.1 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.10.1.

R.1

APPLICABILITY: ALL MODES.

ACTION:

a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.

b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.

c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.10.1.1 In addition to the requirements of Specification 4.0.5, the Reactor Coolant pump flywheels shall be inspected once every 10 years by a qualified inplace UT examination over the volume from the inner bore of the flywheel to the circle of one-half the outer radius or a surface examination (MT and/or PT) of exposed surfaces defined by the volume of disassembled flywheels.

4.4.10.1.2 In addition to the requirements of Specification 4.0.5, at least one third of the main member to main member welds, joining A572 material, in the steam generator supports, shall be visually examined during each 40 month inspection interval.

See ITS 5.0

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ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3.4.10.1 provides requirements for the ASME Code Class 1, 2 and 3 components to ensure their structural integrity. These requirements are in addition to the requirements in CTS 4.0.5. 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 3.4.10.1 does not meet the 10 CFR 50.92(c)(2)(ii) criteria for inclusion into the ITS.

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

1. The ASME Code Class 1, 2 & 3 Components requirements are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The ASME Code Class 1, 2 & 3 Components inspection requirements do not satisfy criterion 1.

2. The ASME Code Class 1, 2 & 3 Components requirements are 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. The ASME Code Class 1, 2 & 3 Components inspection requirements do not satisfy criterion 2.

3. The ASME Code Class 1, 2 & 3 Components requirements are 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. The ASME Code Class 1, 2 & 3 Components inspection requirements do not satisfy criterion 3.

4. The ASME Code Class 1, 2 & 3 Components requirements are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 4.0, (Appendix A, page A-43) of WCAP-11618, the

ASME Code Class 1, 2 & 3 Components requirements were found to be a non-significant risk contributor to core damage frequency and offsite releases. The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The requirements in this Specification are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The ASME Code Class 1, 2 & 3 Components inspection requirements do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the ASME Code Class 1, 2 & 3 Components LCO and associated Applicability, and Actions may be relocated out of the Technical Specifications. The ASME Code Class 1, 2 & 3 Components 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.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

UNIT 1

REACTOR COOLANT SYSTEM

3/4.4.11 REACTOR VESSEL HEAD VENT

LIMITING CONDITION FOR OPERATION

3.4.11.1 At least two Reactor Vessel Head Vent (RVHV) paths consisting of two isolation valves powered from emergency buses shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one of the above RVHV paths inoperable, startup and/or power operation may continue provided the inoperable vent path is maintained closed with power removed from the valve actuator of both isolation valves in the inoperable vent path.

b. With two RVHV paths inoperable, maintain the inoperable vent paths closed with power removed from the valve actuators of all the isolation valves in the inoperable vent paths, and restore at least one of the vent paths to OPERABLE status within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. If any RVHV isolation valve cannot be verified to be closed within 72 hours, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each RVHV path isolation valve not required to be closed above shall be demonstrated OPERABLE by:

a. Exercising each remotely controlled valve through one cycle from the control room pursuant to Specification 4.0.5.

4.4.11.2 Each RVHV path shall be demonstrated OPERABLE following each refueling by:

a. Verifying that the upstream manual isolation valve is locked in the opened position.

b. Verifying flow through the RVHV paths during system venting.

UNIT 2

R.1

REACTOR COOLANT SYSTEM

3/4.4.11 REACTOR VESSEL HEAD VENT

LIMITING CONDITION FOR OPERATION

3.4.11.1 At least two Reactor Vessel Head Vent (RVHV) paths consisting of two isolation valves powered from emergency buses shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one of the above RVHV paths inoperable, startup and/or power operation may continue provided the inoperable vent path is maintained closed with power removed from the valve actuator of both isolation valves in the inoperable vent path.

b. With two RVHV paths inoperable, maintain the inoperable vent paths closed with power removed from the valve actuators of all the isolation valves in the inoperable vent paths, and restore at least one of the vent paths to OPERABLE status within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. If any RVHV isolation valve cannot be verified to be closed within 72 hours, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each RVHV path isolation valve not required to be closed above shall be demonstrated OPERABLE by:

a. Exercising each remotely controlled valve through one cycle from the control room pursuant to Specification 4.0.5.

4.4.11.2 Each RVHV path shall be demonstrated OPERABLE following each refueling by:

a. Verifying that the upstream manual isolation valve is locked in the opened position.

b. Verifying flow through the RVHV paths during system venting.

DISCUSSION OF CHANGES
CTS 3.4.11.1 - REACTOR VESSEL HEAD VENTS

ADMINISTRATIVE CHANGES

None

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

R.1 CTS 3.4.11.1 provides requirements on the reactor vessel head vents. The reactor coolant head vents are provided to exhaust noncondensible gases or steam, which could inhibit core cooling, from the Reactor Coolant System. The reactor vessel head vents are not credited in any UFSAR accident analysis. The reactor vessel head vents are included in the Emergency Operating Procedures for mitigation of beyond design basis accidents. 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 3.4.11.1 does not meet the 10 CFR 50.92(c)(2)(ii) criteria for inclusion into the ITS.

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

1. The reactor vessel head vents are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The reactor vessel head vents do not satisfy criterion 1.

2. The reactor vessel head vents are 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. The reactor vessel head vents do not satisfy criterion 2.

3. The reactor vessel head vents are 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. The reactor vessel head vents do not satisfy criterion 3.

4. The reactor vessel head vents are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 4.0, (Appendix

A, page A-44) of WCAP-11618, the reactor vessel head vents were found to be a non-significant risk contributor to core damage frequency and offsite releases. The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The reactor vessel head vents are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The reactor vessel head vents do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the reactor vessel head vent LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The reactor vessel head vent 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.

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

None

UNIT 1

CTS 3.7.9.1

PLANT SYSTEMS

3/4.7.9 RESIDUAL HEAT REMOVAL SYSTEM - (RHR)

OPERATING

LIMITING CONDITION FOR OPERATION

3.7.9.1 Two RHR subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION: With one RHR subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in HOT SHUTDOWN within the next 24 hours.

R.1

SURVEILLANCE REQUIREMENTS

4.7.9.1 Each RHR subsystem shall be demonstrated OPERABLE by:

a. Verifying isolation of the RHR system prior to the Reactor Coolant System pressure exceeding 500 psig by closing and de-energizing both remote operated RHR suction isolation valves and locking the associated breakers.

b. At least once per 18 months, during shutdown,

1. Cycling each, remote or automatically operated valve in the subsystem flowpath through one complete cycle of full travel.

2. Verifying that each RHR pump is OPERABLE per Specification 4.0.5.

UNIT 2

PLANT SYSTEMS

3/4.7.9 RESIDUAL HEAT REMOVAL SYSTEM - (RHR)

OPERATING

LIMITING CONDITION FOR OPERATION

3.7.9.1 Two RHR subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION: With one RHR subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in HOT SHUTDOWN within the next 24 hours.

R.1

SURVEILLANCE REQUIREMENTS

4.7.9.1 Each RHR subsystem shall be demonstrated OPERABLE by:

a. Verifying isolation of the RHR system prior to the Reactor Coolant System pressure exceeding 500 psig by closing and de-energizing both remote operated RHR suction isolation valves and locking the associated breakers.

b. At least once per 18 months, during shutdown,

1. Cycling each, remote or automatically operated valve in the subsystem flowpath through one complete cycle of full travel.

2. Verifying that each RHR pump is OPERABLE per Specification 4.0.5.

RELOCATED SPECIFICATIONS

R.1 CTS 3.7.9.1 states that two residual heat removal (RHR) subsystems shall be OPERABLE in MODES 1, 2, and 3. The RHR System is used to remove decay heat from the reactor in MODES 4, 5, and 6. The RHR does not operate in MODES 1, 2 and 3 and must be isolated from the reactor coolant system in those MODES to prevent overpressurization of the RHR components. The RHR System serves no accident mitigation function in any MODE. 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 3.7.9.1 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. The RHR System 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. The RHR System does not meet criterion 1.

2. The RHR System 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. The RHR does not meet criterion 2.

3. The RHR System 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. RHR System does not meet criterion 3.

4. The RHR System in MODES 1, 2 and 3 not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. The RHR System in MODES 1, 2, and 3 was not evaluated in WCAP-11618. An evaluation performed by the Company determined that RHR System OPERABILITY in MODES 1, 2, and 3 is a non-significant risk contributor to core damage frequency and offsite releases. The RHR System is not assumed to be OPERABLE in MODES 1, 2, or 3 for any scenarios modeled in the North Anna Power Station site-specific PRAs. The RHR System in MODES 1, 2, and 3 does not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the RHR - Operating LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The RHR - Operating specification will be relocated to the Technical Requirements Manual (TRM). Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as a relocation because

the LCO did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

UNIT 1

PLANT SYSTEMS (A.1)

ITS

RESIDUAL HEAT REMOVAL SYSTEM - (RHR)

SHUTDOWN

None

LIMITING CONDITION FOR OPERATION

3.7.9.2 As a minimum, one RHR subsystem shall be OPERABLE. (L.4)

APPLICABILITY: MODES 4 and 5.

ACTION: With no RHR subsystem OPERABLE, immediately restore at least one RHR subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods. The provisions of Specification 3.0.3, 3.0.4 and 4.0.4 are not applicable. (L.5) (A.2)

SURVEILLANCE REQUIREMENTS

4.7.9.2 The required RHR subsystem shall be demonstrated OPERABLE by:

a. Verifying isolation of the RHR system prior to the Reactor Coolant System pressure exceeding 500 psig by closing and de-energizing both remote operated RHR suction isolation valves and locking the associated breakers. (L.3)

b. At least once per 31 days:

1. Cycling each testable, remote or automatically operated valve in the subsystem flowpath through at least one complete cycle, and

2. Verifying the correct position of each manual valve in the subsystem flowpath, not locked, sealed or otherwise secured in position, and

3. Verifying the correct position of each remote or automatically operated valve in the subsystem flowpath.

(L.2)

c. At least once per 18 months:

1. Cycling each, remote or automatically operated valve in the subsystem flowpath through one complete cycle of full travel. (LA.1)

2. Verifying that the RHR pump, in the subsystem flowpath, is OPERABLE per Specification 4.0.5. (L.1)

UNIT 2

CTS 3.7.9.2

9-23-93

A.1

PLANT SYSTEMS

RESIDUAL HEAT REMOVAL SYSTEM - (RHR)

ITS

SHUTDOWN

None

LIMITING CONDITION FOR OPERATION

3.7.9.2 As a minimum, one RHR subsystem shall be OPERABLE.

L.4

APPLICABILITY: MODES 4 and 5.

ACTION: With no RHR subsystem OPERABLE, immediately restore at least one RHR subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods. The provisions of Specification 3.0.3, 3.0.4 and 4.0.4 are not applicable.

L.5

A.2

SURVEILLANCE REQUIREMENTS

4.7.9.2 The required RHR subsystem shall be demonstrated OPERABLE by:

a. Verifying isolation of the RHR system prior to the Reactor Coolant System pressure exceeding 500 psig by closing and de-energizing both remote operated RHR suction isolation valves and locking the associated breakers.

L.3

b. At least once per 31 days:

1. Cycling each testable, remote or automatically operated valve in the subsystem flowpath through at least one complete cycle, and

2. Verifying the correct position of each manual valve in the subsystem flowpath, not locked, sealed or otherwise secured in position, and

3. Verifying the correct position of each remote or automatically operated valve in the subsystem flowpath.

L.2

c. At least once per 18 months:

1. Cycling each, remote or automatically operated valve in the subsystem flowpath through one complete cycle of full travel.

LA.1

2. Verifying that the RHR pump, in the subsystem flowpath, is OPERABLE per Specification 4.0.5.

L.1

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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 3.7.9.2 Action states that when an RHR subsystem is inoperable, it must be immediately restored to OPERABLE status or RCS temperature must be maintained below 350°F by alternate heat removal methods. It also states that the provisions of Specifications 3.0.3, 3.0.4, and 4.0.4 are not applicable. ITS 3.4.6 Actions do not contain exceptions to these specifications. Other changes to the CTS 3.7.9.2 Action are described in L.5.

This change is acceptable as it results in no technical changes to the Specifications. Under the CTS, if an RHR subsystem is not restored immediately or RCS temperature is not kept below 350°F, no 3.0.3 entry is required and, as a result, a shutdown to a lower mode is not required. Under the ITS, if a required RHR subsystem is inoperable, actions must be initiated to restore a second coolant loop to OPERABLE status but no shutdown to a lower mode is required. Therefore, eliminating the explicit 3.0.3 exception does not result in a technical change to the Technical Specifications. Under the CTS, if an RHR subsystem is inoperable, Specifications 3.0.4 and 4.0.4 are not applicable and, therefore, MODE changes are not prohibited. However, the CTS Action requires RCS temperature to be kept below 350°F, which are the entry conditions for the next higher MODE. Therefore, under the CTS, MODE changes to a higher MODE are prohibited without reliance on Specifications 3.0.4 or 4.0. With a required RHR loop inoperable, ITS 3.0.4 also prohibits transition to a higher mode. This change is designated as administrative as it eliminates allowances that are provided by other means in the ITS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements)* CTS Surveillance 4.7.9.2.c.1 requires cycling of each remote or automatically operated valve in the RHR subsystem flowpath through at least one complete cycle of full travel every 18 months. ITS 3.4.6, 3.4.7, and 3.4.8 do not contain this requirement. This changes the CTS by relocating these Surveillances to the TRM.

The purpose of this Surveillance is to ensure that the RHR subsystem flowpath can be correctly aligned to remove decay heat from the reactor, and the decay heat removal can be controlled, prior to using the system during a refueling outage. 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 requires two coolant loops to be OPERABLE. The verification that each remote and automatic valve in the flow path can be manipulated through a full cycle of travel is a detail of demonstrating OPERABILITY that does not need to be in the Technical Specifications. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. 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 Surveillance 4.7.9.2.c.2 requires each RHR pump in the subsystem flowpath to be verified OPERABLE per Specification 4.0.5. The ITS does not contain this Surveillance.

The purpose of CTS Specification 4.0.5 is to require inservice testing in accordance with 10 CFR 50.55a. The purpose of inservice testing of the RHR pumps is to detect gross degradation caused by impeller structural damage or other hydraulic component problems. The Technical Specifications will no longer require the RHR pumps to be included in the inservice testing program. 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. It is not necessary to perform inservice testing of the RHR pumps to determine if the pumps are OPERABLE as the pumps are routinely operated and the RHR loops are instrumented so that degradation of the pumps can be observed. Significant degradation of the RHR pumps would be indicated by the RHR System flow and temperature instrumentation in the Control Room. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L.2 *(Category 5 – Deletion of Surveillance Requirement)* CTS Surveillance 4.7.9.2.b.1 requires, every 31 days, the cycling of each testable, remote or automatically operated valve in the RHR subsystem flowpath through at least one complete cycle. CTS Surveillance 4.7.9.2.b.2 states that the correct position of each manual valve in the RHR subsystem flowpath that is not locked, sealed, or otherwise secured in position must be verified at least once per 31 days. CTS Surveillance 4.7.9.2.b.3 requires that the correct position of each remote or automatically operated valve in the RHR subsystems flowpath must be verified to be in the correct position at least once per 31 days. The ITS does not contain these requirements.

The purpose of these Surveillances is to ensure that the RHR subsystem flowpath is correctly aligned to remove decay heat from the reactor, and the decay heat removal can be controlled every 31 days. 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 ITS requires two coolant loops to be OPERABLE. If an RHR loop is not being credited as an OPERABLE loop, the CTS surveillances are not needed. If an RHR loop is being credited as an OPERABLE loop, correct alignment of the valves in the flowpath is a condition of OPERABILITY and is readily verified by proper system operation. As stated in the ITS LCO Bases for ITS 3.4.6, "an OPERABLE RHR loop comprises an OPERABLE RHR pump capable of providing forced flow to an OPERABLE RHR heat exchanger." The valves in the flowpath must be in the proper position in order for a required RHR loop to be OPERABLE. If the valves are not in the proper position, the effects will be obvious to the control room operator. Therefore, the Surveillances are not required. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L.3 *(Category 5 – Deletion of Surveillance Requirement)* CTS Surveillance 4.7.9.2.a requires that the RHR subsystem be demonstrated OPERABLE by verifying isolation of the RHR system prior to the Reactor Coolant System pressure exceeding 500 psig by closing and de-energizing both remote operated RHR suction isolation valves and locking the associated breakers. The ITS does not contain this requirement.

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. Verification that the RHR isolation valves are closed above 500 psig is an operational matter that is not reflected in any accident analysis. The RHR system must be isolated from the RCS prior to the RCS pressure exceeding the design pressure of the RHR system. In order for the RHR system to be capable of removing decay heat from the RCS and controlling temperature, the RHR isolation valves must

be open. Verifying that the isolation valves are closed and de-energized with the associated breakers locked does not demonstrate RHR OPERABILITY or reflect the assumptions in any accident analysis. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L.4 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.7.9.2 states that one RHR subsystem shall be OPERABLE in MODES 4 and 5. CTS 3.4.1.3 states that at least two coolant loops shall be OPERABLE and at least one must be in operation in MODES 4 and 5. The two coolant loops may consist of any combination of RCS and RHR loops. ITS 3.4.6 states that two loops consisting of any combination of RCS loops and RHR loops shall be OPERABLE and one loop shall be in operation. ITS 3.4.7 and 3.4.8 require on RHR subsystem to be OPERABLE in MODE 5. This changes the CTS by eliminating the requirement that one RHR subsystem be OPERABLE in MODE 4.

This change is acceptable because the LCO requirements continue to ensure that the system is maintained consistent with the safety analyses and licensing basis. It is not necessary for an RHR loop to be OPERABLE in MODE 4 if two RCS loops are OPERABLE and one is in operation. Two RCS loops provide adequate decay heat removal, boron mixing, and redundancy to meet required functions without relying on an RHR loop. In addition, the RHR system performs no accident mitigation functions. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

L.5 *(Category 4 – Relaxation of Required Action)* CTS 3.7.9.2 Action states that when no RHR subsystem is OPERABLE, immediate action must be taken to restore an RHR subsystem to OPERABLE status or maintain RCS temperature less than 350°F by use of alternate heat removal methods. ITS 3.4.6 states that when one required cooling loop is inoperable, immediate action must be taken to restore a second loop to OPERABLE status. That second loop may be an RHR loop or an RCS loop. ITS 3.4.7 and 3.4.8 states that if no RHR loop is OPERABLE in MODE 5, immediate action must be taken to restore the inoperable loop. This changes the CTS by eliminating the requirement to immediately restore an RHR loop to OPERABLE status in MODE 4. The requirement to maintain RCS temperature less than 350°F by alternate heat removal methods is unchanged as, in this context, the OPERABLE RCS loop is an alternate heat removal method and heatup above 350°F (i.e., to MODE 3) is prohibited by ITS LCO 3.0.4.

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. It is not necessary for an RHR loop to be OPERABLE in MODE 4 if two RCS loops are OPERABLE and one is in operation. Two RCS loops provide adequate decay heat removal, boron mixing, and redundancy to meet required functions without relying on an RHR loop. In addition, the RHR system performs no accident mitigation functions. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

SECTION 3.4 - REACTOR COOLANT SYSTEM (RCS)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS

GENERIC NSHCs

10 CFR 50.92 EVALUATION FOR ADMINISTRATIVE CHANGES

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve reformatting, renumbering, and rewording of Technical Specifications with no change in intent. These changes, since they do not involve technical changes to the Technical Specifications, are administrative.

This type of change is connected with the movement of requirements within the current requirements, or with the modification of wording that does not affect the technical content of the current Technical Specifications. These changes will also include nontechnical modifications of requirements to conform to the Writer's Guide or provide consistency with the Improved Standard Technical Specifications in NUREG-1431. Administrative changes are not intended to add, delete, or relocate any technical requirements of the current Technical Specifications.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change involves reformatting, renumbering, and rewording the existing Technical Specifications. The reformatting, renumbering, and rewording process involves no technical changes to the existing Technical Specifications. As such, this change is administrative in nature and does not affect initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or changes in methods governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

- The proposed change will not reduce a margin of safety because it has no effect on any safety analyses assumptions. This change is administrative in nature. Therefore, the change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
MORE RESTRICTIVE CHANGES

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve adding more restrictive requirements to the existing Technical Specifications by either making current requirements more stringent or by adding new requirements that currently do not exist.

These changes include additional commitments that decrease allowed outage times, increase the frequency of surveillances, impose additional surveillances, increase the scope of specifications to include additional plant equipment, increase the applicability of specifications, or provide additional actions. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change provides more stringent requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event. The more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or changes in methods governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with the assumptions in the safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The imposition of more restrictive requirements either has no effect on or increases the margin of plant safety. As provided in the discussion of change, each change in this category is, by definition, providing additional restrictions to enhance plant safety. The change maintains requirements within the safety analyses and licensing basis. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
RELOCATED SPECIFICATIONS

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relocating existing Technical Specification LCOs to licensee controlled documents.

The the Company has evaluated the current Technical Specifications using the criteria set forth in 10 CFR 50.36. Specifications identified by this evaluation that did not meet the retention requirements specified in the regulation are not included in the Improved Technical Specifications (ITS) submittal. These specifications have been relocated from the current Technical Specifications to the Technical Requirements Manual.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change relocates requirements and surveillances for structures, systems, components or variables that do not meet the criteria of 10 CFR 50.36 (c)(2)(ii) for inclusion in Technical Specifications as identified in the Application of Selection Criteria to the North Anna Technical Specifications. The affected structures, systems, components or variables are not assumed to be initiators of analyzed events and are not assumed to mitigate accident or transient events. The requirements and surveillances for these affected structures, systems, components or variables will be relocated from the Technical Specifications to the Technical Requirements Manual, which will be maintained pursuant to 10 CFR 50.59. In addition, the affected structures, systems, components or variables are addressed in existing surveillance procedures which are also controlled by 10 CFR.50.59 and subject to the change control provisions imposed by plant administrative procedures, which endorse applicable regulations and standards. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or change in the methods governing normal plant operation. The proposed change will not impose or eliminate any requirements and adequate control of existing requirements will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed change will not reduce a margin of safety because it has no significant effect on any safety analyses assumptions, as indicated by the fact that the requirements do not meet the 10 CFR 50.36 criteria for retention. In addition, the relocated requirements are moved without change and any future changes to these requirements will be evaluated per 10 CFR 50.59.

NRC prior review and approval of changes to these relocated requirements, in accordance with 10 CFR 50.92, will no longer be required. This review and approval does not provide a specific margin of safety which can be evaluated. However, since the proposed change is consistent with the Westinghouse Standard Technical Specifications, NUREG-1431 issued by the NRC, revising the Technical Specifications to reflect the approved level of detail gives assurance that this relocation does not result in a significant reduction in the margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES - REMOVED DETAIL

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve moving details out of the Technical Specifications and into the Technical Specifications Bases, the UFSAR, the TRM or other documents under regulatory control such as the Quality Assurance Program Topical Report. The removal of this information is considered to be less restrictive because it is no longer controlled by the Technical Specification change process. Typically, the information moved is descriptive in nature and its removal conforms with NUREG-1431 for format and content.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change relocates certain details from the Technical Specifications to other documents under regulatory control. The Bases, UFSAR, and Technical Requirement Manual will be maintained in accordance with 10 CFR 50.59. In addition to 10 CFR 50.59 provisions, the Technical Specification Bases are subject to the change control provisions in the Administrative Controls Chapter of the Technical Specifications. The UFSAR is subject to the change control provisions of 10 CFR 50.71(e). Other documents are subject to controls imposed by Technical Specifications or regulations. Since any changes to these documents will be evaluated, no significant increase in the probability or consequences of an accident previously evaluated will be allowed. Therefore this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operations. The proposed change will not impose or eliminate any requirements, and adequate control of the information will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. **Does this change involve a significant reduction in a margin of safety?**

   The proposed change will not reduce a margin of safety because it has no effect on any safety analysis assumptions. In addition, the details to be moved from the Technical Specifications to other documents are not being changed. Since any future changes to these details will be evaluated under the applicable regulatory change control mechanism,

no significant reduction in a margin of safety will be allowed. A significant reduction in the margin of safety is not associated with the elimination of the 10 CFR 50.92 requirement for NRC review and approval of future changes to the relocated details. The proposed change is consistent with the Westinghouse Standard Technical Specifications, NUREG-1431, issued by the NRC Staff, revising the Technical Specifications to reflect the approved level of detail, which indicates that there is no significant reduction in the margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 1
RELAXATION OF LCO REQUIREMENTS

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the current Technical Specification (CTS) Limiting Conditions for Operation (LCOs) by the elimination of specific items from the LCO or Tables referenced in the LCO, or the addition of exceptions to the LCO.

These changes reflect the ISTS approach to provide LCO requirements that specify the protective conditions that are required to meet safety analysis assumptions for required features. These conditions replace the lists of specific devices used in the CTS to describe the requirements needed to meet the safety analysis assumptions. The ITS also includes LCO Notes which allow exceptions to the LCO for the performance of testing or other operational needs. The ITS provides the protection required by the safety analysis and provides flexibility for meeting the conditions without adversely affecting operations since equivalent features are required to be OPERABLE. The ITS is also consistent with the plant current licensing basis, as may be modified in the discussion of individual changes. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change provides less restrictive LCO requirements for operation of the facility. These less restrictive LCO requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event in that the requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the current safety analyses and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change does impose different requirements. However, the change is consistent with the assumptions in the current safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The imposition of less restrictive LCO requirements does not involve a significant reduction in the margin of safety. As provided in the discussion of change, this change has been evaluated to ensure that the current safety analyses and licensing basis requirements are maintained. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 2
RELAXATION OF APPLICABILITY

The North Anna Nuclear Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the applicability of current Technical Specification (CTS) Limiting Conditions for Operation (LCOs) by reducing the conditions under which the LCO requirements must be met.

Reactor operating conditions are used in CTS to define when the LCO features are required to be OPERABLE. CTS Applicabilities can be specific defined terms of reactor conditions or more general such as, "all MODES" or "any operating MODE." Generalized applicability conditions are not contained in ITS, therefore the ITS eliminates CTS requirements such as "all MODES" or "any operating MODE," replacing them with ITS defined MODES or applicable conditions that are consistent with the application of the plant safety analysis assumptions for operability of the required features.

CTS requirements may also be eliminated during conditions for which the safety function of the specified safety system is met because the feature is performing its intended safety function. Deleting applicability requirements that are indeterminate or which are inconsistent with application of accident analyses assumptions is acceptable because when LCOs cannot be met, the TS may be satisfied by exiting the applicability which takes the plant out of the conditions that require the safety system to be OPERABLE.

This change provides the protection required by the safety analysis and provides flexibility for meeting limits by restricting the application of the limits to the conditions assumed in the safety analyses. The ITS is also consistent with the plant current licensing basis, as may be modified in the discussion of individual changes. The change is generally made to conform with NUREG-1431 and has been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change relaxes the conditions under which the LCO requirements for operation of the facility must be met. These less restrictive applicability requirements for the LCOs do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event in that the requirements continue to ensure that process variables, structures, systems, and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Therefore, this change

does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change does impose different requirements. However, the requirements are consistent with the assumptions in the safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. **Does this change involve a significant reduction in a margin of safety?**

   The relaxed applicability of LCO requirements does not involve a significant reduction in the margin of safety. As provided in the discussion of change, this change has been evaluated to ensure that the LCO requirements are applied in the MODES and specified conditions assumed in the safety analyses and licensing basis. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 3
RELAXATION OF COMPLETION TIME

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the Completion Times for Required Actions in the current Technical Specifications (CTS).

Upon discovery of a failure to meet an LCO, the ITS specifies times for completing Required Actions of the associated TS Conditions. Required Actions of the associated Conditions are used to establish remedial measures that must be taken within specified Completion Times (referred to as Allowed Outage Times (AOTs) in the CTS). These times define limits during which operation in a degraded condition is permitted. Adopting Completion Times from the ITS is acceptable because the Completion Times take into account 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. In addition, the ITS provides consistent Completion Times for similar conditions. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes the Completion Time for a Required Action. Required Actions and their associated Completion Times are not initiating conditions for any accident previously evaluated and the accident analyses do not assume that required equipment is out of service prior to the analyzed event. Consequently, the relaxed Completion Time does not significantly increase the probability of any accident previously evaluated. The consequences of an analyzed accident during the relaxed Completion Time are the same as the consequences during the existing AOT. As a result, the consequences of any accident previously evaluated are not significantly increased. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the method governing normal plant operation. The Required Actions and associated Completion Times in the ITS have been evaluated to ensure that no new accident initiators are introduced. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The relaxed Completion Time for a Required Action does not involve a significant reduction in the margin of safety. As provided in the discussion of change, the change has been evaluated to ensure that the allowed Completion Time is 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. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 4
RELAXATION OF REQUIRED ACTION

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the Required Actions in the current Technical Specifications (CTS).

Upon discovery of a failure to meet an LCO, the ITS specifies Required Actions to complete for the associated Conditions. Required Actions of the associated Conditions are used to establish remedial measures that must be taken in response to the degraded conditions. These actions minimize the risk associated with continued operation while providing time to repair inoperable features. Some of the Required Actions are modified to place the plant in a MODE in which the LCO does not apply. Adopting Required Actions from the ISTS is acceptable because the Required Actions take into account the operability status of redundant systems of required features, the capacity and capability of the remaining features, and the compensatory attributes of the Required Actions as compared to the LCO requirements. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes Required Actions. Required Actions and their associated Completion Times are not initiating conditions for any accident previously evaluated and the accident analyses do not assume that required equipment is out of service prior to the analyzed event. Consequently, the relaxed Required Actions do not significantly increase the probability of any accident previously evaluated. The Required Actions in the ITS have been developed to provide appropriate remedial actions to be taken in response to the degraded condition considering the operability status of the redundant systems of required features, and the capacity and capability of remaining features while minimizing the risk associated with continued operation. As a result, the consequences of any accident previously evaluated are not significantly increased. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The Required Actions and associated Completion Times in the ITS have been evaluated to ensure that no new accident initiators are introduced. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The relaxed Required Actions do not involve a significant reduction in the margin of safety. As provided in the discussion of change, this change has been evaluated to minimize the risk of continued 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. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 5
DELETION OF SURVEILLANCE REQUIREMENT

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve deletion of Surveillance Requirements in the current Technical Specifications (CTS).

The CTS require safety systems to be tested and verified Operable prior to entering applicable operating conditions. The ITS eliminates unnecessary CTS Surveillance Requirements that do not contribute to verification 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. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change deletes Surveillance Requirements. Surveillances are not initiators to any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The equipment being tested is still required to be Operable and capable of performing the accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The remaining Surveillance Requirements are consistent with industry practice and are considered to be sufficient to prevent the removal of the subject Surveillances from creating a new or different type of accident. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The deleted Surveillance Requirements do not result in a significant reduction in the margin of safety. As provided in the discussion of change, the change has been evaluated to ensure that the deleted Surveillance Requirements are not necessary for verification 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. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 6
RELAXATION OF SURVEILLANCE REQUIREMENT ACCEPTANCE CRITERIA

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve the relaxation of Surveillance Requirements acceptance criteria in the current Technical Specifications (CTS).

The CTS require safety systems to be tested and verified Operable prior to entering applicable operating conditions. The ITS eliminates or relaxes the Surveillance Requirement acceptance criteria that do not contribute to verification that the equipment used to meet the LCO can perform its required functions. For example, the ITS allows some Surveillance Requirements to verify Operability under actual or test conditions. Adopting the ITS allowance for "actual" conditions is acceptable because required features cannot distinguish between an "actual" signal or a "test" signal. Also included are changes to CTS requirements that are replaced in the ITS with separate and distinct testing requirements which, when combined, include Operability verification of all TS required components for the features specified in the CTS. Adopting this format preference in the ISTS is acceptable because Surveillance Requirements that remain include testing of all previous features required to be verified OPERABLE. Changes which provide exceptions to Surveillance Requirements to provide for variations which do not affect the results of the test are also included in this category. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change relaxes the acceptance criteria of Surveillance Requirements. Surveillances are not initiators to any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The equipment being tested is still required to be Operable and capable of performing the accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The relaxed acceptance criteria for Surveillance Requirements do not result in a significant reduction in the margin of safety. As provided in the discussion of change, the relaxed Surveillance Requirement acceptance criteria have been evaluated to ensure that they are sufficient 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 that gives confidence that the equipment can perform its assumed safety function. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 7
RELAXATION OF SURVEILLANCE FREQUENCY

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve the relaxation of Surveillance Frequencies in the current Technical Specifications (CTS).

CTS and ITS Surveillance Frequencies specify time interval requirements for performing surveillance testing. Increasing the time interval between Surveillance tests in the ITS results in decreased equipment unavailability due to testing which also increases equipment availability. In general, the ITS contain test frequencies that are consistent with industry practice or industry standards for achieving acceptable levels of equipment reliability. Adopting testing practices specified in the ITS is acceptable based on similar design, like-component testing for the system application and the availability of other Technical Specification requirements which provide regular checks to ensure limits are met. Relaxation of Surveillance Frequency can also include the addition of Surveillance Notes which allow testing to be delayed until appropriate unit conditions for the test are established, or exempt testing in certain MODES or specified conditions in which the testing can not be performed.

Reduced testing can result in a safety enhancement because the unavailability due to testing is reduced and; in turn, reliability of the affected structure, system or component should remain constant or increase. Reduced testing is acceptable where operating experience, industry practice or the industry standards such as manufacturers' recommendations have shown that these components usually pass the Surveillance when performed at the specified interval, thus the frequency is acceptable from a reliability standpoint. Surveillance Frequency changes to incorporate alternate train testing have been shown to be acceptable where other qualitative or quantitative test requirements are required which are established predictors of system performance. Surveillance Frequency extensions can be based on NRC-approved topical reports. The NRC staff has accepted topical report analyses that bound the plant-specific design and component reliability assumptions. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes Surveillance Frequencies. The relaxed Surveillance Frequencies have been established based on achieving acceptable levels of equipment reliability. Consequently, equipment which could initiate an accident previously evaluated will continue to operate as expected and the probability of the initiation of any accident previously evaluated will not be significantly increased. The equipment being

tested is still required to be Operable and capable of performing any accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The relaxed Surveillance Frequencies do not result in a significant reduction in the margin of safety. As provided in the discussion of change, the relaxation in the Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. Thus, appropriate equipment continues to be tested at a Frequency that gives confidence that the equipment can perform its assumed safety function when required. Therefore, this change does not involve a significant reduction in a margin of safety.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 8
DELETION OF REPORTING REQUIREMENTS

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve the deletion of requirements in the current Technical Specifications (CTS) to send reports to the NRC.

The CTS includes requirements to submit reports to the NRC under certain circumstances. However, the ITS eliminates these requirements for many such reports and, in many cases, relies on the reporting requirements of 10 CFR 50.73 or other regulatory requirements. The ITS changes to reporting requirements are acceptable because the regulations provide adequate reporting requirements, or the reports do not affect continued plant operation. Therefore, this change has no effect on the safe operation of the plant. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

   The proposed change deletes reporting requirements. Sending reports to the NRC is not an initiator to any accident previously evaluated. Consequently, the probability of any accident previously evaluated is not significantly increased. Sending reports to the NRC has no effect on the ability of equipment to mitigate an accident previously evaluated. As a result, the consequences of any accident previously evaluated is not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The deletion of reporting requirements does not result in a significant reduction in the margin of safety. The ITS eliminates the requirements for many such reports and, in many cases, relies on the reporting requirements of 10 CFR 50.73 or other regulatory requirements. The change to reporting requirements does not affect the margin of safety because the regulations provide adequate reporting requirements, or the reports do not affect continued plant operation. Therefore, this change does not involve a significant reduction in a margin of safety.

This proposed Technical Specification change has been evaluated against the criteria for and identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. It has been determined that the proposed change meets the criteria for categorical exclusion as provided for under 10 CFR 51.22(c)(9). The following is a discussion of how the proposed Technical Specification change meets the criteria for categorical exclusion.

10 CFR 51.22(c)(9): Although the proposed change involves changes to requirements with respect to inspection or surveillance requirements,

(i) proposed change involves No Significant Hazards Considerations (refer to the Determination of No Significant Hazards Considerations section of this Technical Specification Change Request);

(ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite since the proposed changes do not affect the generation of any radioactive effluents nor do they affect any of the permitted release paths; and

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

Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Based on the aforementioned and pursuant to 10 CFR 51.22 (b), no environmental assessment or environmental affect statement need be prepared in connection with issuance of an amendment to the Technical Specifications incorporating the proposed change of this request.

SECTION 3.4 - REACTOR COOLANT SYSTEM (RCS)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS

SPECIFIC NSHCs

There are no specific NSHC discussions for this Section.